

# SD Times

SOFTWARE DEVELOPMENT

The Industry Newspaper for Software Development Managers

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Software keeps track of a constantly changing dockside as ships unload.

## The Software of Shipping

One company keeps 40 percent of the world's ports from drowning in goods

BY ALEX HANDY

If you look around your office, chances are that 90 percent of what you see once was afloat. The IKEA chair that came over on a container ship from Sweden, the plastic rug mat beneath it that was made in China—they were among the goods shipped to you from countries all around the world. And with every new shipment, Navis' software is watching, monitoring and charting paths for those goods.

Roy Camblin, senior vice president of engineering of Navis LLC, Oakland, Calif., is responsible for all of the company's software developers. After Zebra Technologies acquired Navis in December, the scope of that software was widened to focus on other industries and logistics problems, such as airports. But the heart of the company remains focused on ports.

Forty percent of the world's ports—including Dubai, Rotterdam and Oakland—use Navis software, the company said. When Camblin arrived at the company more than a year and a half ago, most of those 200 ports had their own branches of code inside the Navis software development process. Camblin's first job was to merge everything into a single stream—a process he had witnessed as CIO of Oracle. With limited resources and a growing product, it made sense for Navis' developers to customize code for every client, said Camblin.

"Over the past five or 10 years ... they opened up the code line so each customer could have their own branch. That gets you to

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## JBoss Projects Form Red Hat SOA Stack

Open source at core of middleware suite

BY ALEX HANDY

Red Hat has thrown itself into the enterprise SOA ring. Although its acquisition of JBoss in June 2006 hinted at middleware aspirations, the first fully formed fruits of that move were released only last month.

The JBoss Enterprise SOA Platform is formed by the intersection of many JBoss open-source projects, and includes the JBoss enterprise services bus, the JBoss jBPM for process management, and JBoss Rules. Each piece of the SOA puzzle is designed to work with outside sources of data and with existing SOA infrastructure from compa-

nies such as Amberpoint, SOA Software and Vitria.

The platform, announced at the annual JBoss World in Orlando, Fla., will be bolstered by a new initiative within Red Hat called Enterprise Acceleration.

Craig Muzilla, vice president of the middleware business at Red Hat, said that his goal is to expand the open-source ecosystem around the new JBoss platform. By creating integration projects and completing middleware projects under JBoss, Muzilla and his team hope to push the gas pedal on SOA adoption in enterprises, with the help of simpler tools, more dynamic stacks and vibrant

third-party participation.

However, at least one analyst isn't impressed. Jason Bloomberg, managing partner at ZapThink, called the SOA platform "new labels on old stuff."

He added that JBoss middleware has been "setting the bar for all the [competing] commercial products. All the commercial products have to be better than JBoss," because the value proposition of these open-source projects is high enough to make them reasonable alternatives to expensive commercial solutions.

But that doesn't mean Red Hat's SOA future is assured, he

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## Can You Count on Touch-Screens?

Security experts say optical scan voting most accurate

BY JEFF FEINMAN

In Avi Rubin's eyes, the best way to improve direct-recording electronic voting machines, or DREs, is to stop using them altogether.

Rubin, a computer science professor at Johns Hopkins University and longtime critic of electronic voting methods of all stripes, said that states are moving away from the questionable DRE machines, many based on touch-screens, to optical scanning, and he couldn't be happier.

The issue has come to the

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States scrambled to adopt new voting technology after the 2000 election.

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# Microhoo? Analysts Weigh In

Microsoft's Yahoo bid faces integration, regulatory hurdles

BY DAVID WORTHINGTON

As the saga of Microsoft's unsolicited attempt to buy Yahoo continues to unfold, analysts have been examining the notion of the companies' combining.

It all began when Microsoft tendered its proposal on Feb. 1 to Yahoo's board, which rejected the deal Feb. 11 on the grounds that it undervalued the company. Yet, Microsoft vowed to move forward with the proposed acquisition.

In a statement that would do a Corleone proud, Microsoft said, "It is unfortunate that Yahoo has not embraced our full and fair proposal to combine our companies." It went on to note, "Microsoft reserves the right to pursue all necessary steps to ensure that Yahoo's shareholders are provided with the opportunity to realize the value inherent in our proposal."

An alternative scenario to Microsoft would be the possibility of a white knight coming to Yahoo's rescue.

In any event, SD Times spoke with two experts on Microsoft: Michael Gartenberg, vice president and research director at Jupiter Research, and Laura DiDio, senior analyst with the Yankee Group consulting firm. They tried to shed light on what is motivating the software behemoth to venture more than US\$44 billion for what amounts to a struggling Internet business.

Both agreed on why Microsoft simply must buy Yahoo: It needs to be more competitive with Google on the Web. They also foresaw a long road, dotted with merger integration and regulatory challenges, for Microsoft to traverse in order to prevail.

Gartenberg said he believes that Microsoft's desire to gain market share in the search and advertising markets is driving the deal. He also noted that Yahoo's brand is strong in international markets and believes Microsoft likely would keep it alive.

DiDio remarked that Microsoft chief executive officer Steve Ballmer has shown himself to be an adroit boss with the flexibility to adapt to change. She compared his strategy to that of the Japanese: Ballmer is looking ahead to grow Microsoft five to 10 years out.

"He clearly can't buy Google," she explained, "and Microsoft's own online search and advertising has not been what one would call a 'winner.' Ballmer is taking a page out of Larry Ellison's book: 'If you can't beat it, buy it.'"

While it may seem risky to spend billions for a floundering Internet company, DiDio said,

the bigger risk is to do nothing. She added, "If [Ballmer] doesn't dig his heels in on this one, Google runs away with the race."

On the topic of risk, Gartenberg believes that Microsoft's core business of platforms and tools is protected even if purchasing Yahoo would turn out to be a historic blunder, but he acknowledged that the company must diversify its product portfolio.

"It's a big, bold move. Microsoft knows that it needs to make its Internet and consumer businesses work. It is making huge bets for future revenue," he said.



*'Microsoft needs to make its Internet and consumer businesses work. It is making huge bets for future revenue.'*

—Michael Gartenberg, vice president and research director at Jupiter Research

## CLEARING HURDLES

To even get those bets onto the table, Microsoft must clear some hurdles. One comes from a worldwide army of regulators. DiDio and Gartenberg were tentative about whether Microsoft would be able to acquire Yahoo, because of the prospect of government regulation.

Gartenberg believes that the outcome of the U.S. presiden-

tial election could affect Microsoft's ability to buy Yahoo. Typically, he noted, Democratic candidates express interest in broader regulation, whereas the Republican philosophy is friendlier to megadeals.

More broadly, DiDio said that the European Commission would have strong words for Microsoft. It "didn't like the Google-DoubleClick deal. I think there's some sour grapes; there [simply] are not too many innovative European software firms at this point."

But the shareholders have to accept the deal first. DiDio said that Ballmer's determination to pursue Yahoo could help the deal succeed, but she was cautious about making any predictions, recalling the failed Lotus-Novell merger of 1990 as an example of the analyst community's pontificating gone awry.

Microsoft's proposal "seems to be in a wait-and-see mode," DiDio said. "Yahoo said, 'We are worth more than \$30 a share,'

but if you notice, their stock isn't going anywhere. There is a lot of saber rattling and posturing."

## MAKING THE SHOE FIT

The third hurdle is how to integrate the companies, which have similar products, thousands of employees and dramatically different management styles.

"Ballmer has had disdain for deals of this size," Gartenberg said. "The integration issues are hard. Integrating Microsoft's technologies with Yahoo's raises the question of 'Who's got the better stuff?' There are areas of overlap up and down the line."

He posited that Microsoft could allow certain Yahoo products to coexist with its own products, but the back-end infrastructure would likely be integrated. Moreover, he observed that some of two companies' technologies, such as instant messaging, have a "good deal" of interoperability.

The biggest integration challenge? It might be people. Gartenberg observed, "Seattle is not Silicon Valley," citing differences in the two corporate cultures. "The real tasks will begin after the ink dries on the contract."

DiDio agreed, and cautioned that the first six months to a year are crucial whenever two high-tech companies merge. Her outlook is this case is grim: "They are going to have a clash of cultures."

She concluded, "Much has been made of how Yahoo hates the idea of being taken over by Microsoft. If I were a Yahoo person, I'd be more worried about getting a pink slip if someone doesn't buy them quickly." However, she acknowledged that redundant administrative jobs were most likely to be eliminated. ■



## CYBERCRIME: HOW TO REPEL AN ATTACK

"The New Face of CyberCrime," released last month, casts the software developer in a heroic role. Fortify Software employed Academy Award-nominated filmmaker Frederic Golding to produce the 20-minute film, said Fortify co-founder Roger Thornton. Using high-profile security breaches, such as the one suffered by retailer TJX Cos., the film underscores that firewalls alone can't keep hackers at bay.

Without naming Fortify's tools, which audit source code for potential holes, the film explains that crucial information, such as the credit card numbers stolen by the hackers who hit TJX, is not secure unless the applications that store it are based on code inherently strong enough to withstand attack.

"Trying to protect from the outside in is a loser's game,"



said venture capitalist Ted Schlein in the film. Schlein is a partner at Fortify backer Kleiner Perkins Caufield & Byers, a venture capital firm.





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# Social Networking Sites Let the Applications Roll

## MySpace follows Facebook with APIs; LinkedIn a different case

BY ALEX HANDY

It's been more than nine months since Facebook first gave developers the ability to build applications on its site. Since that time, the popular social networking site has become flush with simple applications such as Magic 8-Ball and Fortune Cookie. One application maker has even come under fire from Mattel for building an unlicensed Scrabble clone that runs on the social networking platform.

But application development for social networking is no longer a one-horse town. On Feb. 5, MySpace entered the platform arena by offering its own API. The MySpace Developer Platform includes facilities much like those of Facebook, and has already sparked its own gaggle of similarly frivolous applications.

For business and enterprise users, these platforms are essentially freeways to 18-to-24 town, since they're so popular with the young. Marketing is a big part of the draw to these platforms, but most corporate developers wouldn't give them a second thought, since they're



MySpace users will be able to write and embed applications alongside the video, photos and animated GIFs that they now post.

closer to a playground than a shopping mall.

However, that's not to say that social networks as development platforms will be entirely irrelevant to corporate coders. LinkedIn is the de facto leader of the business-focused social networking sites.

The site allows businesspeople to connect with their coworkers past and present,

and to offer up their previous work history instead of their favorite bands.

LinkedIn, too, is trying to evolve into a platform, but the company's philosophy and more serious subject matter necessitate a somewhat different approach than those of Facebook and MySpace.

Lucian Beebe, director of product management at

LinkedIn, said that security and privacy are the most important considerations for the company's APIs. Sometime in March, LinkedIn will roll out some of the early third-party applications and widgets built for the site, but they will all be tightly controlled.

"When you sift around and look at the model of the application [when] hosted in the network," said Beebe, "things ... become different. Applications in LinkedIn will be utility applications and business applications. We're going to set up the rules of the platform to encourage high utility, and discourage applications that are used for spam. Those applications will only have visibility into your network. There really isn't a point where applications could harvest profiles," he added.

That's because LinkedIn treats its users' pages as personalized, private content. Unlike MySpace, which maintains a user agreement that turns over to Rupert Murdoch's media empire the rights to all content produced and posted by users, LinkedIn doesn't lay claim to

this information.

Thus, LinkedIn applications will only be able to handle data gleaned from the user's circle of contacts, not from outside. Nevertheless, developers will still have a wide field for exploration, noted Beebe.

Beebe said that one of the first applications coming online for LinkedIn would scan personal networks and correlate data with event or conference information. Users could chart out a map of the people they know who are also attending said events.

Other applications will allow job seekers to find people they know inside the companies they're interviewing with, or give travelers the chance to find local friends and contacts.

It's a carefully balanced game of privacy and utility, said Beebe. "There's been as much or even more interest in getting LinkedIn data into applications, as there has been getting applications into LinkedIn," said Beebe. Now, the trick is to make sure that information isn't used for identity theft or the distribution of spam. ■

# Web Community Gains Momentum

## IBM's Project Zero bolsters PHP engine, reaches 175,000 downloads

BY JEFF FEINMAN

Half a year after its birth, IBM's Project Zero has reached 175,000 downloads, gaining momentum as a thriving Web community.

An incubator project focused on dynamic Web applications, Project Zero brings an environment with a scripting runtime for Groovy and PHP, APIs optimized for producing REST-style services, integration mashups and rich Web interfaces. Developers can download the platform at projectzero.org.

Recent efforts have focused on how applications are built on Zero, said Jason McGee, the IBM distinguished engineer who is the chief architect of Project Zero. Some capabilities have been layered in, including the Active Content Filtering framework that helps people deal with SQL injection and other security

problems, he noted. McGee said IBM has built out its PHP engine, getting phpBB—an open-source implementation of the language for forums and bulletin boards—running on it. IBM plans to switch to a Zero-hosted version of the open-source forum engine, since the Project Zero site already uses it.

Zero can now access Amazon E-Commerce services and run on Mac OS X.

Since its mid-July launch, the site has seen about 175,000 downloads, according to McGee. Initially, developers receive a small set of pieces necessary to use Zero; then, features are retrieved automatically over the network as required. As of January, about 800 users had registered, contributing forum posts and blogs.

Release 1.0 of Project Zero is planned for the summer.

"There's been some good interest in Zero, along with continuing interest that shows people are not only getting the first thing, but they're using it and getting updates in the functionality," McGee said.

### POSITIVE FEEDBACK

In the Project Zero Web community, developers have the opportunity to offer criticisms and suggestions. IBM has received positive feedback on the REST-style architecture and how easy it is to build an application that adopts the principle of REST, McGee said. Developers also appreciate the agility with which they can build applications, he added.

IBM encourages developers to use Eclipse as an IDE for Zero applications and to download sample applications from the project's site.

Zero applications can connect to any database that is accessible through JDBC drivers. When it was created, Project Zero was tested with Microsoft's Windows XP and Novell's SUSE Enterprise Linux Server 10.

Project Zero's source code is publicly available for registered developers, though IBM has not released it under an open-source license.

With the introduction of Project Zero and the gradual release of the IBM Jazz collaboration platform, IBM seeks to make open development more of a standard across the company.

Jerry Cuomo, CTO of IBM WebSphere and IBM Fellow, said he and Martin Nally, his opposite number at IBM Rational, have shared data on the two initiatives, and they are sharing infrastructure on which both



Cuomo said WebSphere and Rational are sharing data and infrastructure.

projectzero.org and Jazz.net run.

"I don't want to say it's orchestrated, but we're certainly experimenting in the same space," Cuomo said. "We hope that, over time, we'll share lessons learned about transparent development on the visible side of the firewall. Martin and I are certainly optimistic that, over the next couple of years, this will be more the norm." ■



# Richer User Experience in the AIR?

## Adobe updates desktop runtime and Flex development framework

BY DAVID RUBINSTEIN

Coffee is a commodity. You can get a cup at McDonald's, 7-Eleven or your local sandwich or doughnut shop. But, thanks to

Alfred Peet, who trained the founders of Starbucks, coffee drinkers are now looking for richer experiences. Hence the explosion of knockoff coffee

lounges replete with comfortable sofas, soft music and flavorful aromas.

Adobe's executives have been working to give computer

users a richer experience than a sequence of pages on the Web or an unwieldy production report on their desktop. And with the Feb. 25 release of the

updated AIR desktop runtime and Flex development framework, Adobe said that its tools would help developers create even better user experiences.

The Flex 3 release offers a hybrid desktop, which allows Flex applications to deploy on the AIR runtime unmodified, and enables developers to add desktop functionality where warranted "with the exact same code base," said Adobe platform evangelist Kevin Hoyt. The updated Flex Builder IDE now features wizards for packaging AIR applications and includes the AIR libraries. "You can drag-and-drop components from a Flex application into a new shell for the desktop," Hoyt explained.

For use in a browser, Flex applications are compiled into a SWF (Shockwave flash) file and deployed to the Flash player. For Flex on the desktop, these same SWF files can be deployed to the AIR runtime, Hoyt said.

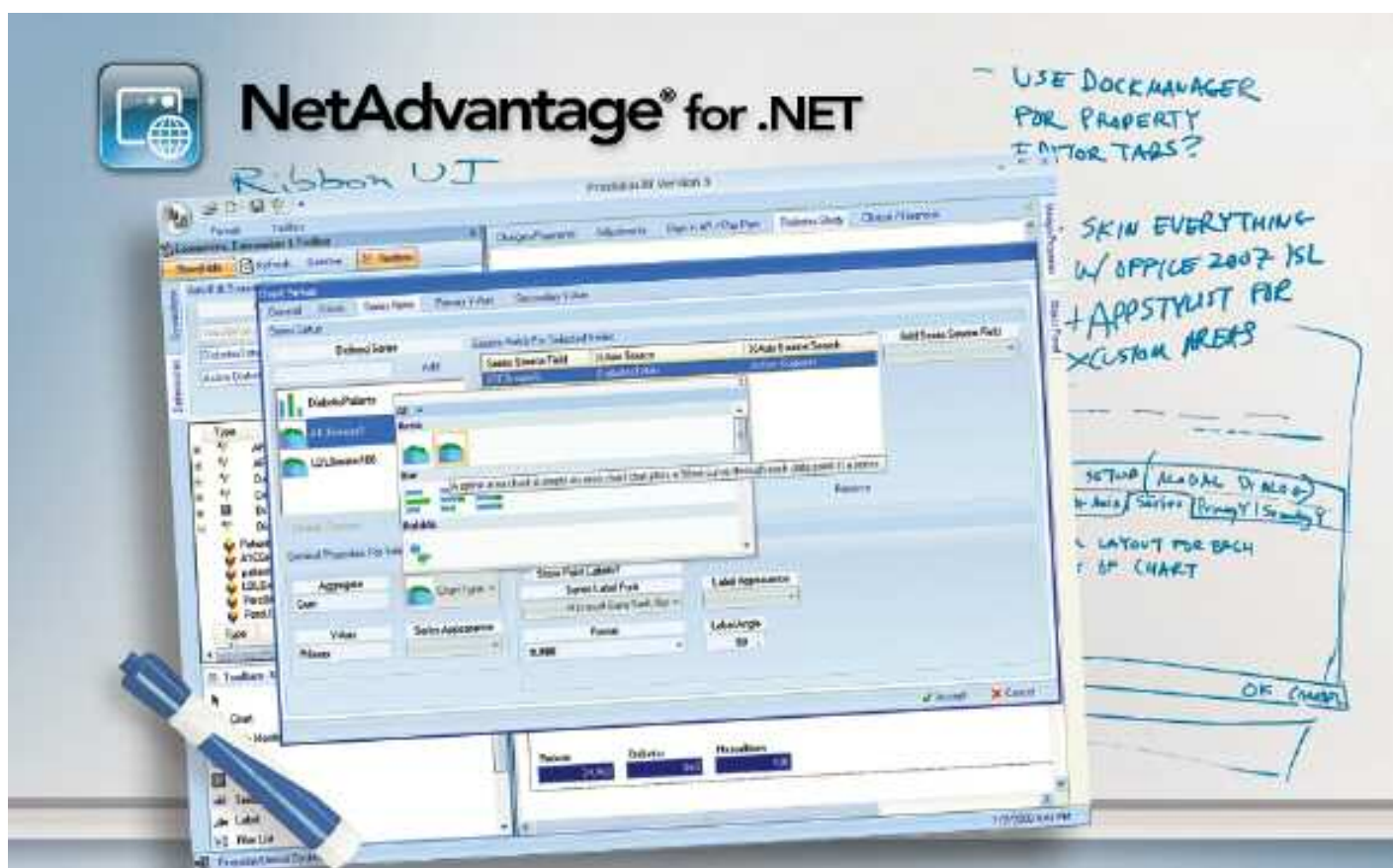
Flex 3 also has wizards for creating advanced data-centric applications with .NET, PHP and Java, and an advanced Data Grid component that allows data to be selected in a hierarchical, group or free-range cell manner, Hoyt said.

### WINDOW TO CHANGE

He added that applications running in the flash player could be reduced in size, now that the player caches the Flex library. The Flex framework also has enhanced memory profiling and performance, he said, as well as code refactoring, which lets users bring up a dialog box and show the impact of the change throughout the project. That way, "developers can make changes intelligently," Hoyt added.

In addition, Flex 3 has tighter integration with Adobe's Creative Suite, so designers and Web developers can use Fireworks, Flash, Illustrator or Photoshop to skin the application logic, according to Hoyt.

AIR 1.0—a cross-operating system runtime that enables Web developers skilled in HTML and JavaScript to create applications for the desktop—includes the latest version of the flash player, multicore support and the H.264 video codec. Hoyt cited eBay as an example of a Web application that could benefit from desktop capabilities such as working offline, dragging in pictures of items up for bid, and storing item descriptions offline. ■



## Real Solutions for Real Challenges.

The Challenge

Precision.BI, a provider of business and clinical intelligence solutions for health care providers, had decided to move its COM-based analytical software to .NET and a Web-based version. In order to deliver the same look and feel in the product with which its customers have grown comfortable, Precision.BI needed to create a consistent look and feel across all its applications.

The Solution

Precision.BI ("PBI") adopted Infragistics NetAdvantage for .NET to deliver data analysis software to its healthcare provider audience. PBI used the NetAdvantage AppStylist to design one consistent look and feel, and then branded all of their .NET and Web-based applications' fonts, colors and styles instantly. Sharing the user experience allowed doctors and healthcare professionals to access the system remotely through the Web just as if they were sitting in an office at the hospital.

Bringing together such a cross-platform, highly-functional UI was facilitated with NetAdvantage's comprehensive tool set. It cut development time to extend PBI's data analysis products with its grids, tabs, trees, toolbars, and an Office 2007 ribbon. The ribbon element alone saved hundreds of man-hours that would otherwise have been prohibitive. Building their presentation layer on Infragistics NetAdvantage, PBI was able to continue delivering powerful benefits to their many customers.

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## NEWS BRIEFS

### COMPANIES

**MySQL AB**, in the process of being acquired by Sun, has launched the MySQL Authorized Hosting Partner Program, which is designed for top-tier hosting companies and managed hosting providers. Partners can get access to MySQL Enterprise for Web-hosted applications. MySQL Enterprise Server and MySQL Enterprise Monitor, which are benefits within the program, help partners host multiple clients per server and monitor all MySQL servers . . . **HP** has launched a Web site to compile requirements expertise and share best practices to help organizations define business requirements. The site, which is called Requirements.net, was created with the help of operations management supplier CoreTechs, Orasi Software, Sky IT Group and the Requirements Networking Group . . . Virtualization management software provider **InovaWave** has changed its company name to **Hyper9**. That is also the name of the company's main product line.

### UPDATES

Progress Software, a supplier of application infrastructure software, has released version 7.1 of its **Progress Actional SOA** management product family. Actional 7.1 provides BPM users with views of dependencies between business process steps and other services, as well as the ability to set thresholds for alerts for process slowdowns . . . DataDirect Technologies, a data connectivity and mainframe integration unit of Progress Software, came out with the latest release of the **DataDirect XQuery** engine. The engine supports the MySQL Enterprise Server database, works with Electronic Data Interchange applications and processes large-scale XML documents . . . Recursion Software, a Texas-based middleware and development tool provider, has reworked its **C++ Toolkit Suite** to run on HP's Itanium-based Integrity servers . . . Keyoti, a creator of software components and

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# Lattix Livens Service Extraction

## Aims to help untangle architectures for those moving to SOA

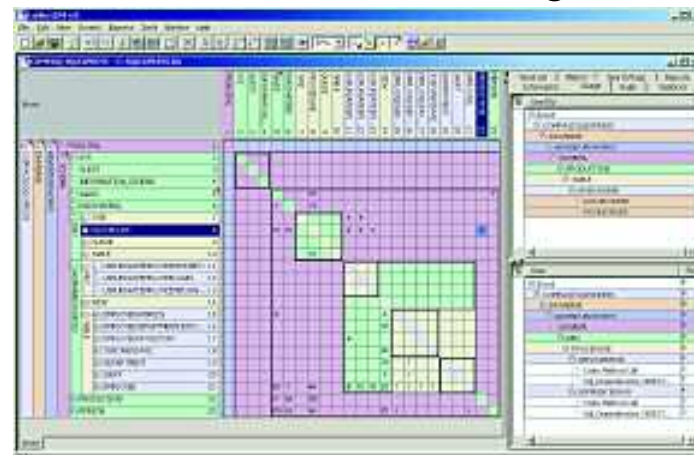
BY JEFF FEINMAN

Lattix has added the ability to handle large-scale rearchitecting and service extraction for SOA in version 4.0 of its name-sake complex software system analysis suite.

Lattix 4.0, expected to be released Feb. 26, can extract components and services with new tagging and reporting capabilities. The goal is to help organizations untangle architectures as they move toward SOA, executives said, and tagging enables them to specify the differences among classes and files.

"Once you know [those differences], then, using our tagging and reporting capabilities, you can extract and slice your code and create a separate service out of it," said Neeraj Sangal, founder and CEO of Lattix, a software architecture management provider. "We can do it on a very large scale."

Lattix 4.0 works with Microsoft SQL Server, joining Oracle's database as a supported platform. Lattix also works



Lattix 4.0 brings new tagging, reporting and SQL capabilities.

with C/C++, Java, .NET, and the Hibernate and Spring frameworks.

Adding SQL Server allows Lattix to build "groups of functionality" that customers tend to use together, Sangal said.

Lattix relies on its Dependency Structure Matrix (DSM), which uses dependencies to create a blueprint of software applications, databases and systems. As the name suggests, DSM is matrix-based, which lets a user

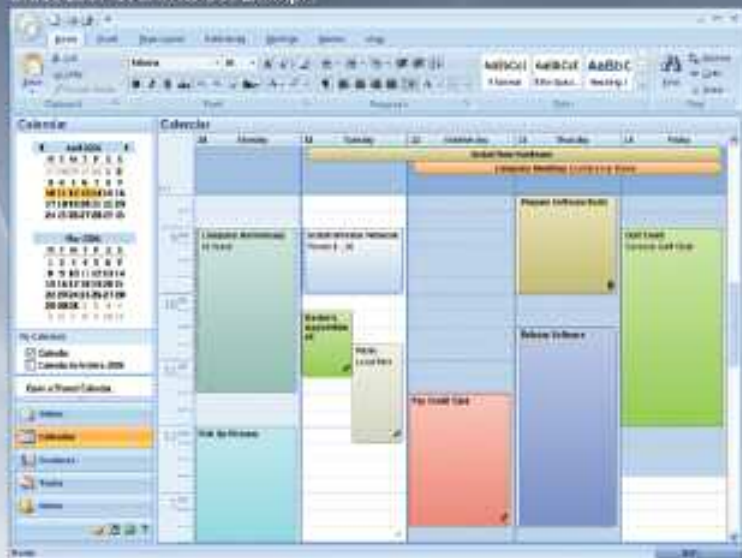
aggregate information about dependencies on a high level.

"You can visualize how the various parts of the system are interconnected, and by that I mean presenting it and making rules, so that you can enforce it," Sangal said. "It can scale well to large systems, and it allows you to represent systems that consist of a variety of technologies. DSM can be composed of Java apps, Java and database components, and testing capabilities." ■

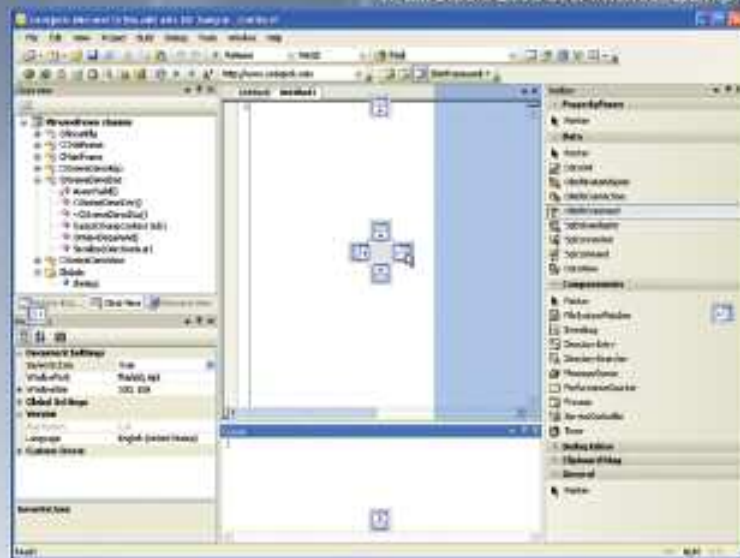
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Visual Studio 2008 User Interface Example



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# Citrix Coats Xen in Platinum

## New edition can run 1,000 machines from a disk image

BY ALEX HANDY

With VMWare's successful IPO and Citrix's massive acquisition of XenSource in August, 2007 may be remembered as the year of virtualization.

Now, six months after Citrix's purchase of XenSource, a new Platinum edition of the XenServer software is expected to arrive late this month.

XenServer 4.1 is in public beta, with accelerations and optimizations that will result in more time and energy saved by employing virtualization, according to company officials. Citrix already offers three flavors of XenServer: the free Express edition, Standard and the clustering-capable Enterprise edition. At the end of March, the company will introduce a new product to the Xen line-up, dubbed the Platinum edition.

Simon Crosby, CTO of Citrix's virtualization management division, said the biggest new feature for Platinum edition is the ability to run 1,000 machines from one virtualized disk image.

That's the sort of engineering feat of which XenSource is now capable, said Crosby,

thanks to a hefty infusion of cash and resources from Citrix. "It's been incredibly busy for us. XenSource was 75 people. We are now a division of Citrix

with 250-odd people. Citrix has been throwing a lot of resources at us and building out the portfolio," said Crosby.

The acquisition hasn't

harmed the open-source aspects of Xen, either, said Crosby. "Open-source Xen has been significantly boosted by Citrix. They more than doubled

our open-source development [team]. Xen.org is up and running, and going flat out. The Xen community is going down the path of adding features like high availability and policy based automation," said Crosby.

For now, though, the focus is on finishing Platinum by the end of March. ■

## IP COMMERCE LINKS KIT TO PARTNERS

BY DAVID WORTHINGTON

IP Commerce Inc. gets down to dollars and cents, even when it is giving its product away. The company recently made its Commerce Toolkit for Applications generally available, as a way for .NET developers to integrate payment applications with service providers.

Developers no longer will have to build a new connection every time they create a payment application. The catch is that the kit binds applications to service providers that take part in the company's IP Commerce Network of partners and that use the kit's back-end IP Commerce Platform. It works with the .NET Framework 2.0 and above.

Supported payment types include bank cards, electronic checks and stored value cards. The toolkit follows the Payment Application Best Practices for card data security outlined by Visa, securing user authentication, and providing activity logging and data encryption. ■



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# Satisfy Your Quality Obsession

**Fred Davidson**  
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Seapine Software

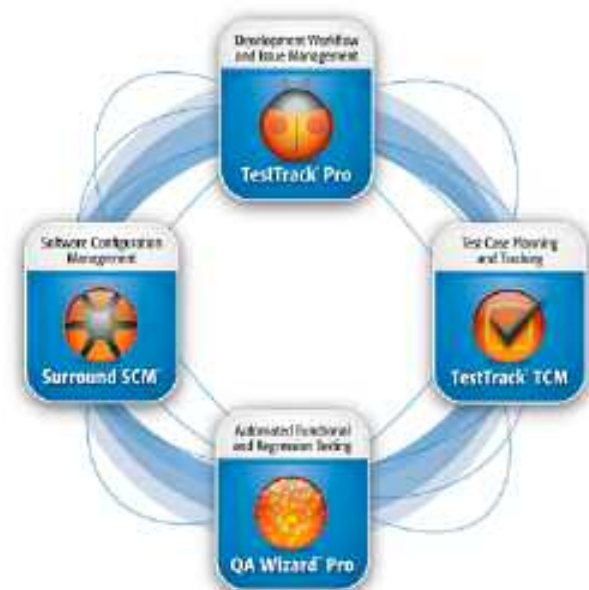
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# Power User 2.0 Follows the DIY Siren

BY JENNIFER DEJONG

The power users are back. This time they are younger and more tech-savvy—and they are rolling their own applications in greater numbers than ever before.

In the 1980s, power users

wrote macros to program their spreadsheets. In the 1990s, they built little databases in Lotus Notes. This decade's do-it-yourselfers look to the Web to compose simple applications for collaborating with colleagues and

getting the job done. Without writing a line of code, they can throw together a mini-CRM system that captures sales leads from the company Web site, or come up with a recruitment manager that trawls the Internet

looking for new talent.

To build these mini-applications, they turn to easy-to-use development tools aimed at business users, not professional programmers. To pay for the offerings, many of which are

Web-based and cost as little as US\$10 per user per month, power users bypass IT and plunk down their credit cards, relying on expense reports for reimbursement. "It's taxicab pricing," said Avi Bryant, co-CEO for Dabble DB, a Web offering for building online databases. "And you don't have to ask IT to install anything."

## WHO ARE THEY?

The new power users are practical, Web-savvy business people of every age, convinced that they have better access to information at home than at work, said Olivier Poupene, CEO of DreamFace Interactive, which offers a free version of its development tool for business users. "At home, they have Google, the [entire] Web. At work, it's just apps from IT." They are accustomed to doing things like setting up Flickr accounts to share photos, added Coghead CEO Paul McNamara. So they say: "Why can't I do [things like] this at work?"

Instead of complaining, power users roll up their sleeves and build what they need. The applications they create—sophisticated reports that comb the Web for financial data about competitors, event planners that track the names of speakers and registrants at an upcoming conference—fill a gap not served by IT, said McNamara. "These things were hard to get developed in the past. They are too small for professional developers to take on, too specific for [off-the-shelf] applications to address."

In the past, small teams of business users managed projects by tracking them in an Excel spreadsheet, "e-mailing the file back and forth," added Bryant. Sharing a single application over the Web is more efficient, and it's also empowering, he said.

What's more, the do-it-yourself approach avoids the often-troubled process, associated with professional development projects, of translating business requirements to technical requirements. Users who write these mini-applications are close to the business, said Kapow Technologies chief marketing officer Joe Keller. And that's why they work, he said, referring to one application that combs the Web looking for financial data about competi-

continued on page 26 ►

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# Spreadsheets Allow Windward to Excel in Reporting

BY JEFF FEINMAN

Boulder, Colo.-based Windward Reports has added Microsoft Excel capabilities to the newest version of its AutoTag J2EE and .NET reporting software.

AutoTag 6.0, which was expected to be formally announced by the end of February, uses Excel templates to generate reports that can perform calculations on values. Company executives highlighted the simplicity and familiarity that comes with using Excel.

AutoTag 6.0 has a pull-down menu that allows users to select a data source such as an SQL database or XML file. The user can then use Excel commands to format and edit the report, assigning tags to the data fields using the menu. A new Tag Editor features tabbed tag editing, and a Tags Tab makes it easier to find tags to avoid mistakes, company executives said.

Other new features include drag-and-drop data with the aim of faster tag construction, a SQL and XPath editor within the tag editor, and training videos for AutoTag.

David Thielen, founder and CEO of Windward Reports, said that previous releases of AutoTag focused on designing reports in Microsoft Word. Although users can still work in Word, he noted that the additional functions of an Excel spreadsheet could be valuable to reporting. He said that business users that "live" in Excel now have an easier way to create reports.

"A lot of our customers are financial institutions, banks, investment houses and so forth," Thielen explained. These users not only want to show the numbers, "but they also want the formula that shows the percentage of the purchase price, and today's price on the stock, to show how much money you've made or lost on it."

## REDUCING THE TEDIUM

Reporting is often the last item added into most software, almost as an afterthought, Thielen said. Instead of creating reports from scratch, companies prefer a flexible reporting tool that can work with a familiar Microsoft program like Excel, he added. "I don't know

of any developer that's thrilled to be assigned reports. There's always more interesting work, and it's one of the few cases where you tell developers that we'll get them out of doing this

work, and they thank you."

Thielen did note that other reporting companies offered spreadsheet capabilities. Business Objects, the creator of Crystal Reports, embeds busi-

ness intelligence into its spreadsheets, for instance.

"You can write your own code to build up the spreadsheets yourself internally, but boy, would that be a lot of work

any time you wanted a little change," he said. "But in terms of a reporting package, I don't think there's anything else out there that could do what we do." ■

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## Can Social Software Make IT More Dynamic?

Software AG deputy CTO  
Miko Matsumura believes  
in the power of people

BY DAVID WORTHINGTON

Aligning IT and business practices has become the Holy Grail of the software industry, and enterprises are demanding more dynamic solutions from software makers. Today's enterprise is composed of people, processes and technologies, and business infrastructure is increasingly bound by human behavior.

SD Times interviewed Miko Matsumura, deputy CTO of Software AG, to learn about how social networking, the concept behind Facebook and LinkedIn, makes IT more dynamic by empowering people and coordinating their activities.

### SD Times: Why is social software emerging in the enterprise?

*Miko Matsumura:* From our perspective, we view social software as part of a broader story. The emergence of social software is something that is fairly deep. It seems to be the segmentation of enterprise software into three regions. I want to be concise with this, because it's not the traditional segmentation of hardware, middleware and applications.

The three layers are the machine layer, the corporate layer and the human layer. The bottom layer of enterprise software has to do with machines. This includes mainframes, transactional systems and the data center.

The middle layer has to do with the needs of companies. This layer includes both enterprise applications like supply chain, CRM, ERP, but also traditional middleware like integration, SOA, ESB, etc.

The emerging layer in this new way to look at software is the human layer. This includes what people traditionally call "front office" applications, like productivity and collaboration apps. But what is transforming this layer is the emergence of the social graph and new interfaces.

The things that my kids do on the Internet are also ways to propagate events, collaboration and to coordinate IT infrastructure and the deployment of new processes and services.

### How are these layers interrelated?

These three layers correspond with the three major architectural patterns in software today: the service-oriented pattern, where everything is a reusable component; the process-oriented pattern, where everything is a process; and the event-oriented pattern, where everything is an event.

In the world of the data center, looking at everything as a service makes a lot of sense. As you move up to the corporate layer, process is the dominant metaphor. At the human layer, events are the primary model.

Software AG sees this as an opportunity, because we view these three layers as having a coordination problem. How do you integrate the machine, the human and the company? Each of these three entities has a unique set of limitations, strengths, capabilities and requirements.

### What happens in the human layer?

In the human layer, companies are competing and differentiating. What our customers are realizing is that both their own employees as well as their customers are humans, and that humans make the key decisions that drive things like brand, customer experience and customer relationship.

Even in a B2B scenario, we have a much more event- and exception-driven way of managing our customer relationships. In this way, companies differentiate themselves and provide superior customer service.

### What is Software AG doing to create social software?

We work on internal projects and deploy those capabilities at more advanced customer sites. We have advanced R&D efforts that embed social networking concepts into our software capabilities. A large telecom vendor is putting social software on top of CentraSite [a governance product sold by Software AG].

We will begin to expose some of the capabilities and a few advancements in products in this type of category in mid-2008. We have a lot of demand for this

continued on page 20 ►



# Developer Express Removes UI Design Grunt Work

## Assembles a framework to generate apps out of its components

BY DAVID WORTHINGTON

If data manipulation and user interface construction are not your thing, a Visual Studio add-

on from Developer Express tries to do most of the grunt work for you by assembling those modules out of compo-

nents. The catch: The automated part applies only to its own components.

Developer Express recently

shipped the first release of its eXpressApp Framework, or XAF, for Visual Studio 2005 and 2008. Developer Express'

DXCore 3 product is used as the integration framework for Visual Studio.

A developer employs the designers and templates of DevExpress to define business objects in their code, within the Visual Studio environment.

Once that's done, the developer compiles the application, while the framework works out what business objects are present, and its runtime creates a user interface for the application, as well as persists data, said CTO Julian Bucknall.

Interfaces are assembled out of Developer Express' ASP.NET 2 and Window Forms components. XAF automatically generates ASP.NET and WinForms versions of the application without UI-specific code.

Because one size rarely fits all, a configuration engine called Model is available for developers to predefine configuration attributes, and the framework exposes similar attributes for the interfaces that it creates. Non-XAF modules may be incorporated too, to extend the application beyond its capabilities.

"The programmer will define his business objects and how they interact, [then] run the application, have a look at the UI," Bucknall noted. The developer can determine what elements should appear, and to how many users, basically configuring "the application to do the things that he wants to do," he explained.

However, the developer's freedom to tinker is limited to how XAF works. Developers "can't have a new paradigm for displaying information, and must accept the basic workflow of XAF," Bucknall said.

He added that XAF will have additional modules to enable more complex business functionality over time, and that Developer Express will update the framework on the same release cycle as its controls.

XAF will not work with Visual Studio 2003 because of changes made in DXCore. The XAF installer will uninstall all previous versions of DXCore. New versions of CodeRush and Refactor that support DXCore 3 will be made available so developers can continue to use those products. ■

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# Krugle Updates Enterprise Code Search

Enterprise 2.0 handles SCM of all sorts, scans 50 programming languages

BY ALEX HANDY

Krugle has not been frugal with its code search. Amid the Web 2.0 hype, the site now known as Krugle.org commanded quite

the code search following, thanks to an Eclipse plug-in and a large selection of languages. The company has been boxing this up as an appliance

and selling it to enterprises for about US\$25,000 a year. This month, Krugle updated the Krugle Enterprise search appliance to version 2.0.

For the second time out of the gate, Krugle has reworked its methods of interfacing with SCM systems. Krugle Enterprise 2.0 can sift through flat

file systems, as well, scanning 50 types of programming languages, including Ada, C, C/C++, Java, Pascal, Perl and Rexx.

Krugle has discovered a great deal since the first release of the appliance in May. Matt Graney, senior director of product management at Krugle, said that the enterprise team learned quickly about the variety of SCM systems used in the wild.

## SEARCHING THE SOURCE

"After the initial launch of Krugle Enterprise [1.0], we were really struck by the response from enterprise customers, many of whom had a wide range of SCM systems in play, even some that are notoriously difficult to configure," said Graney.

To accommodate all those systems, Graney and his team pulled the connective parts of the search engine out into the open, where they could be manipulated with scripts. Krugle could create new connection scripts in Python at the customer's request, he said, or customers could write their own in any appropriate language.

"We know that all of our customers have a little bit of everything," Graney said. "Even if we take [Rational] ClearCase as an example, it's widely deployed—probably the market leader. But every single instance is different. They've all been tweaked; from customer to customer, and even within some customers, we find each installation is different."

He continued, "Other systems we're seeing include AccuRev, BitKeeper, and plenty of Subversion and plenty of Perforce. Our customers seem to have everything. All these customers have the same problem, which is being able to find the information wherever it's stored."

As for the Internet code search engine, Krugle.com continues to add new code and new languages. The search engine has expanded to cover technology papers, and has also segmented out a new area for searching open-source projects. Rather than simply indexing the code from those projects, the engine is capable of scanning the various communications that surround such projects. ■

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# LogiXML Data Integrator Built for the Enterprise

BY DAVID WORTHINGTON

New data management and integration capabilities play key roles in LogiXML's quest to scale its Web-based Logi business intelligence platform to work effectively for large enterprises.

Logi 9, an update that became generally available on Jan. 31, introduces an ETL (extract, transform and load) tool intended to simplify data integration. The new tool is report-focused; it reviews and modifies data from disparate sources to conform to a report's parameters such as field and data types.

A new data processing engine, the Logi Hybrid Data

Engine, has increased the volume of users and records that the platform can support. David Abramson, director of product management at LogiXML, explained that the engine determines whether to

process data in memory or to handle it by creating an XML-based cache file, which can be streamed to multiple users before being consumed by reporting engines for output.

All of Logi's BI products use

the data engine for reporting, he explained.

On the presentation side, Logi 9 expands personalization options and adds Web 2.0 style elements to reports, including a widget-building tool. ATOM

and RSS feeds help users collaborate and share reports. Report features are added or removed according to permissions and role designations, marketing director Michael Greeley added. ■

## DENODO COLLECTS DISPARATE DATA

BY JEFF FEINMAN

Denodo Technologies bolstered the collection capabilities of its data integration platform, enabling it to handle a much wider range of Web enterprise data sources, including Rich Internet Applications, the company said.

The platform's Virtual DataPort lets users gather data from structured and unstructured sources—for example, relational databases, Web services and XML sources can be processed.

Traditionally, unstructured data is cataloged and indexed in content management systems, which add metadata to a document, according to Suresh Chandrasekaran, Denodo's vice president of marketing.

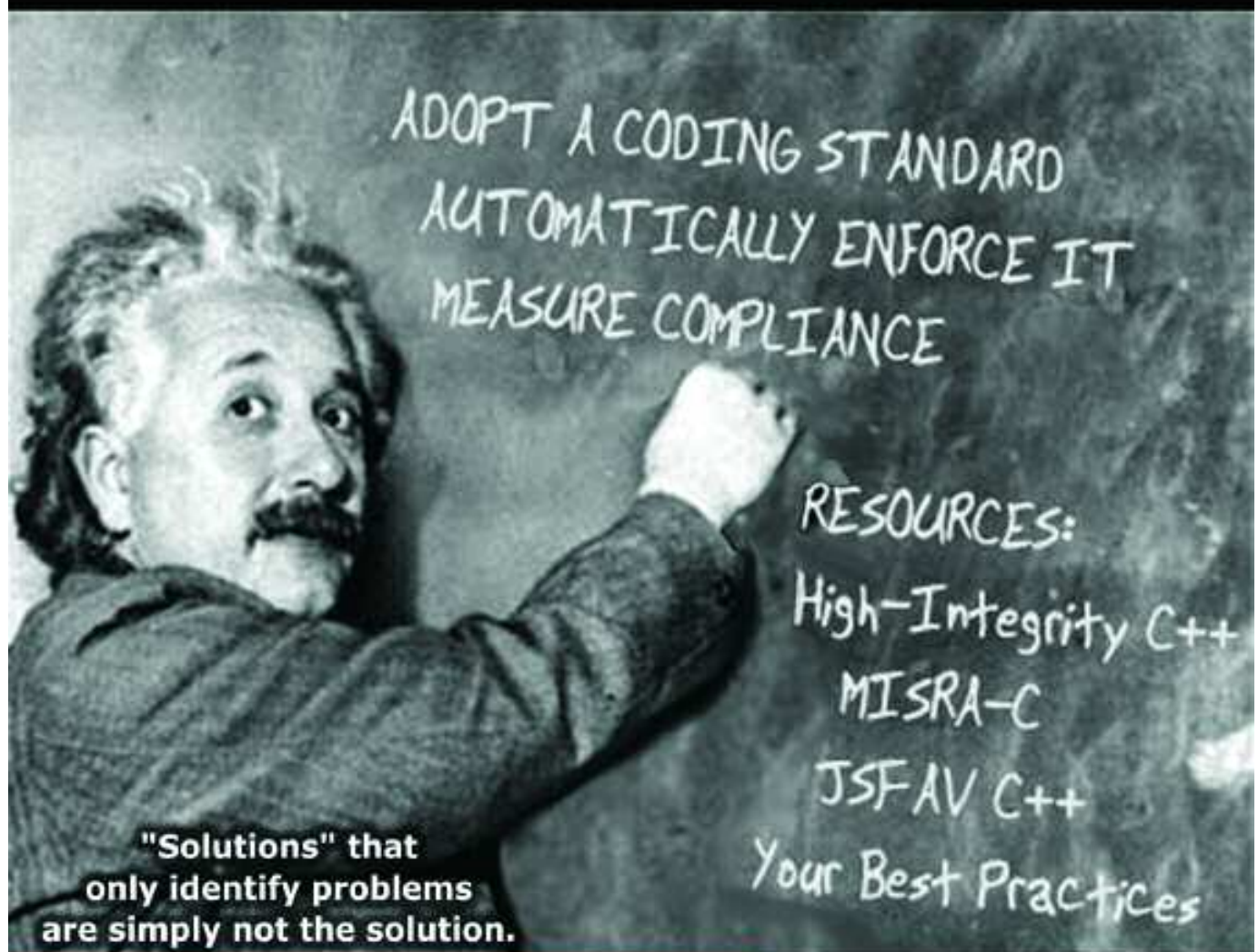
"The most important feature of 4.1 is the ability to go out and gather and mash up data from virtually any source—structured or unstructured," Chandrasekaran said.

Version 4.1 can work with RSS feeds and REST (Representational State Transfer).

Chandrasekaran discussed the difference between typical Web mashups and the company's data mashups. Others "are very visual-centric. The data relationships are simple, and they offer relatively low quality of service," he said. "That makes sense when you're dealing with the UI layer or desktop applications. Denodo goes much deeper into the data and information layer, and builds deeper relationships. We're more of a business analyst type of tool, not an end-user tool." ■

Intellectuals solve problems.  
Geniuses prevent them.

— Albert Einstein



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# TrueView Spies Problem Transactions

BY DAVID WORTHINGTON

SOA applications cut across infrastructure tiers to integrate services the way that phones connect people through PBX systems. Indeed, a service's complex pathways harken back to the interwoven cords of an old-fashioned switchboard, where pinpointing performance issues is difficult.

Trying to cut through complexity and spot bottlenecks in a service-oriented environment, Symphoniq last month released TrueView for SOA, an extension to the company's TrueView performance-monitoring software.

TrueView traces transactions across SOA tiers from within the end user's browser. The soft-

ware configures Apache- and IIS-based Web servers and network appliances, injecting JavaScript into Web pages to tag transactions and monitor them, even through firewalls, said

Symphoniq CEO Hon Wong.

Probes—embedded in applications, databases and Web servers—monitor the tagged transactions as they go by, sending information to the

management server to be correlated. Symphoniq calls its user-centric monitoring TRUE, for The Real User Experience.

TrueView provides drill-down information into HTTP

error codes and associated diagnostics, and the software works in both J2EE and .NET environments.

Wong said that TrueView follows transaction paths from end to end, no matter how many services take part in a response—even third-party Web entities, such as Google Maps. ■

## Metalllect Models With XMuddle

BY JEFF FEINMAN

Metalllect is making its impact analysis capabilities visual with new modeling software for generating architecture and dependency diagrams.

An early beta of XMuddle, released in mid-February, allows developers to reverse-engineer a collection of Java .jar files and produce a diagram of the architecture and runtime dependencies.

Dependency mappings are generated from "a deep data flow and pointer analysis," which makes XMuddle very accurate, claimed Frank Auger, CEO of Metalllect. "Most of the editors out there have plug-ins that can walk the call hierarchy, but many of the key dependencies are missed that way," he said.

Auger went on to assert that XMuddle can show all the dependencies in an application and not simply those tied to the source code, because the tool works with binaries. XMuddle runs analysis of finished builds of software and creates diagrams with which developers can interact.

Metalllect's goal for XMuddle is to give developers a modeling tool that has their needs in mind. "Other modeling tools mostly focus on UML and the initial modeling of the system," Auger said. "If you talk to architects, they'll say they love those tools, but if you talk to the average developer, they find them to be somewhat of a burden." ■

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# Social Software Empowers People, CTO Says

◀ continued from page 12

type of capability. This is why we see our customers moving toward a focus on interaction management both on the service provider side as well as on the customer side.

**How do you encapsulate all of those concepts into an application?**

A lot of it [social-enabled applications] ends up looking like existing tools, but it's glued together into a much more best-of-breed solution

for you to succeed and communicate. Alerts, notifications, and approvals can be expressed in whatever system that you need: instant messengers, pagers, RSS feeds, etc.

**You mentioned coordination. How**

**does that fit into the mix?**

Ultimately an enterprise of any size is made up of heterogeneous concerns: lots of groups of people with differing interests and agendas. Coordinating this to meet the

needs of customers requires an understanding of the human layer: one of coordination, collaboration, events, but also a relationship to policies and processes.

This relationship is one of federation, where smaller groups need to give up a degree of autonomy in order to participate in the larger enterprise.

Social technologies can go deeper than collaboration and move into coordination. The coordination concept is a little bit postmodern; it transcends a universal interface. We are hoping that the coordination function can be [supplied by] the federation of tools that people use.

**What are some real-world use cases?**

It's not hard to make the machine layer and corporate layer get along. Machines have certain measurable capabilities, and you just have to make a capacity plan. This is pretty normal. You can measure a machine and understand exactly what it will do next.

There is a very substantial boundary between the corporate layer and the human layer. How do you predict what humans will do next? Why is this an important thing to do?

Well, take a look at successful products like the Nintendo Wii. Nobody predicted the huge demand that would be created by such a product. This impacted production and delivery in manufacturing [parts] and supply [to consumers] hugely. You could claim that this product was an anomaly, but with the scale of the Internet, increasingly people will participate in "flash commerce," where certain products will become very hot.

The boundary, we feel, that is the most challenging in IT deployment is the boundary between business and IT function. The tension is between the needs of the corporation and the limitations of the machine layer and the needs of the business users. If you watch this dynamic, you realize that the business user's needs are just reflecting the needs of their customers. It's a very human dynamic.

So, getting the business to recognize policies, limitations and constraints while innovating and making money is a big challenge. ■

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THE CONVERGENCE OF DOCUMENTS, MEDIA, AND APPLICATIONS

# IBM Finalizes MDM Server

## Ships a master data solution with pre-defined data models

BY DAVID WORTHINGTON

Modern software architectural patterns such as SOA require a single source for master data to avoid data errors and inconsistencies. IBM has gone to market with its answer to the problem: a multi-domain Master Data Management (MDM) server.

After several months of beta testing, the company shipped IBM Master Data Management Server (MDMS) on Jan. 30. MDMS creates an infrastructure to centrally manage account, customer and product data. Pre-defined data models help hasten implementations.

The server combines IBM's customer integration tools that were found in WebSphere Customer Center (WCC) with workflow capabilities from WebSphere Product Center (WPC), a workflow-oriented product data hub for product information management that is itself nearing release.

Aaron Zornes, chief research officer of the MDM Institute, a market information group, said that the MDM market was in a transition. The earliest adopters were just customer- or supplier-focused master data solutions; now, however, large enterprises are endorsing the consolidation of master data into a single view.

He added that IBM's large customers have pushed Big Blue into providing an integrated product ahead of key competitors.

### NOT JUST FOR THE BIG BOYS

Paraic Sweeney, vice president of IBM's product management and information platforms solutions group, said that MDMS is not just for large enterprises. "It has the ability to scale to volume demands and operational reliability requirements; it is not just for one segment of the market. A significant important component of this release is its ability to start on more modest projects," he explained.

IBM's MDM server allows several implementation styles. It can coexist with existing systems and collect data in a batch process. MDMS becomes the authoritative source of information; entities created with the solution are fed to databases downstream. A second supported implementation style is transactional data management, where all applications use MDMS as their exclusive source of master data.

Alternatively, MDMS may be deployed as a registry of master information contained in the system, storing only references to master data.

MDMS can work with IBM Information Server to bulk-load, cleanse and



Sweeney said the server can start on 'more modest projects,' meeting volume demands.

normalize data, and it works with both IBM DB2 and Oracle Database.

Sweeney touted the server's ability to support data governance at an integrated level, event notification features, and support for business processes.

Its governance capabilities have been expanded with data stewardship task management, to manage high load volume for duplicate suspect processing, and workload management tools.

IBM created user interface elements to assist users in tasks such as identifying where records should be collapsed or expanded, and deploying changes in operational systems.

"We took [customers'] best practices and baked it into the core product," Sweeney explained.

MDMS is based on technology that IBM acquired from Ascential Software, namely QualityStage and DataStage, and DWL Customer. Its data model was inherited from IBM Profiler, WCC's forebear.

"The new InfoSphere MDM Server product is probably the most capable MDM product for transaction-style MDM deployments in a SOA," said John Radcliffe, research vice president for CRM with Gartner.

However, Radcliffe bemoaned that the WPC product is still required to provide the collaborative workflow capabilities that allow product data to be presented in MDMS, even though MDMS can handle product data on its own.

Manufacturing and retail processes involve people making products, so product data is more workflow-oriented than transactional. WPC extends MDMS' capacity to work with those types of workflows.

IBM will ship a new version of WPC this summer, the company said. ■





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# Software Keeps World's Ports in Motion

◀ continued from page 1

the next step, but that paradigm eventually hits the end of its life cycle," said Camblin. "You have to decide how to get a convergence of all that code, and get everyone merged back into one single code line.

"Every successful software engineering company I've ever been in has gone through this phase," Camblin said. "We've gotten everything we've ever done in those separate code lines, and we've merged into our super [codebase]. It's a much sharper code line, and you allow the uniqueness in each customer to come out in the builds."

Leaving customization to the build process will save Navis time and money, said Camblin. But the amount is small compared with how much money the ports are saving by using the software. Navis' port management software is all

about route optimization.

"It's basically everything it takes to manage containers across a marine terminal," said Camblin, describing the capabilities of Navis' software. "You have an inbound container ship with 10,000 to 15,000 containers on it. [Our software] gives you a 3D view of where each container is located. Does it have top rails, can you stack it, is it refrigerated, is it hazardous?"

"This is an industry that charges by the lift. The software does the ship planning in terms of what's inbound. It also does all the planning within the stacks. You've got to know where they're going to be berthed, as you move all the containers that are going to go out on that vessel. It tells everything in the yard where to pick it up, and what to do with it. If you've got manned equipment, there's typically a radio-controlled terminal inside it,

whether it's a reach stacker or terminal tractor, and it tells the driver what his next step is. It plans routes so the driver never drives empty."

## DESIGNING AROUND PEOPLE

Despite the potential for massive variance in port design and procedure, Camblin said, each port can be accommodated from the main code line. Specific customizations are simply branched in a build time. However, there is one major difficulty around which Navis has been designing for years: the people.

"Some of these terminals run 24/7," said Camblin. "If you have a piece of equipment like a straddle carrier, it has 6.1 drivers per week assigned to it, so it never stops moving." That means each user can treat Navis' software differently.

Navis has begun to deal with automated equipment with its software. That tends to require

the installation of new sensors and triggers in ports, but this isn't coming at the expense of jobs. Typically, said Camblin, Navis' software is helping existing ports increase capacity while keeping the same staff. But that doesn't stop some workers from ignoring the software.

If a driver isn't willing to push a button that announces he's finished moving a container, for example, Navis' developers have coded software hooks that can read information from sensor arrays covering the docks and yards. If the driver won't push the button, the sensors can simply check to see where his truck is. If it's where the software dictated, then he's probably finishing that task and moving on.

## COMMODITIZED CODE

In Camblin's 25 years in the software industry, he said that the biggest improvement and most radical change he has seen



**Roy Camblin oversees the development of software that runs 40 percent of the world's ports.**

is the ever-increasing commoditization of software.

During the 1980s, Camblin watched the banking industry come to understand that building all of its deposit and tracking software internally was ludicrous. "We're in that kind of phase right now in our industry," he said. "Our major competitor is not a company; it's internal IT shops trying to maintain a system that's 20 years old. At some point you hit a tipping point and nobody can afford to build it anymore."

Moreover, as commoditization takes place on the business side, the Navis team has confronted the open-source side. For the past four years, the Navis team has been constructing its own development framework from scratch based on Java EE and Spring. Now that that work is done, Camblin considers the move to have been crucial to the continuing success of the company.

From this experience, he offers up his recipe for success. "Regardless of your tools and frameworks, if you don't have developers who can think object-oriented, it will work against you," said Camblin.

"Those white papers are over 40 years old, but I've seen very few people who can implement the tenets of object-oriented design," said Camblin. Fortunately, the Navis developers have followed those white papers to the letter in their construction of the new framework.

"Write a couple of declaratives, and portions of whole applications are created for you," Camblin said. "Because the open-source tools are constantly changing, we can zipper something out, and zipper something else back in," he added, explaining the benefits of the object-oriented design patterns. ■

# A New Breed of Power User Evolves

◀ continued from page 10

tors. "These are projects you want to put an MBA on, not a Java programmer."

Kapow Technologies sells "mashup" servers for adding Web data to applications without having to write code to access the data source's API.

## HERE COME THE MILLENNIALS

Just how many business users are also power users is unknown. But their numbers are likely to swell dramatically as new graduates enter the work force. The "millennials" have come of age using social networking sites like Facebook and MySpace, and virtually all members of that generation fit the power user profile, said Forrester analyst Jeff Hammond. For years, he added, "they have been taking

components, widgets and putting them on their pages." Accustomed to doing that outside the firewall, they are now insisting on doing the same inside the workplace: "They are not going to settle for less."

The new power users take technology for granted. But that doesn't always translate into expertise, said Keller. Shrewdly informed about the Web, they don't necessarily understand their tools' underlying technology. They are used to pointing and clicking, said StrikeIron vice president of marketing and business development Robin Griffin. "If you can get it down to three, five, or even 10 clicks, they can" build their own applications.

StrikeIron sells data services and tools that permit nonprogrammers to create

business applications.

Like those developed by earlier generations, the applications created by the new power users often fly under the radar of IT. Two things are beginning to change that. First, power users are running up against tough problems that force them to seek technical help, said Keller. He offered an example: when pulling data from the Web, they come across sites that use dynamic JavaScript, and that makes it difficult for them to understand the HTML. "So they turn to professional developers, to IT." Are professional developers willing to offer that help? "The more progressive IT shops are," said Coghead's McNamara. "They recognize the productivity benefits of these tools."

Second, power users seek to



**LongJump CEO Pankaj Malviya says that DIY coders still need IT.**

extend their mini-applications sooner or later, said Pankaj Malviya, CEO for LongJump, a Web offering for building customizable business applications. They're connecting not just to Web data they have culled themselves, he explained, but also to information housed in corporate databases: "[Do-it-yourselfers] cannot bypass IT altogether. They need IT to give them the data, to massage it for them."

Power users may prefer the tools they have written themselves for accessing corporate data. But that doesn't mean enterprise applications—and their developers—are going away, said McNamara. "What we are seeing is a natural expansion of the developer community." ■

## WHAT'S WITH THE FUNNY NAMES?

What to name your Web 2.0 development tool? Rack your brain for a catchy idea, and if you can't come up with one, let a Web 2.0 name generator such as Lightsphere's ([www.lightsphere.com/dev/web20.html](http://www.lightsphere.com/dev/web20.html)) do the job for you. It looks like "Dazzletags" or "Topic-fish" could be yours for a not-too-hefty fee, not to mention "Podbean" and "Brightzoom."

Makers of do-it-yourself developer tools don't admit to christening their babies that way. But with names like DabbleDB, DreamFace, Long-

Jump and Zoho, they may as well have. The monikers don't necessarily make sense, but nonetheless appear carefully chosen to appeal to a younger, hipper crowd raised on the Internet and now entering the work force. "We thought of going with something like 'NextWare,'" said LongJump CEO Pankaj Malviya. "But you don't want to sound like enterprise software when you are talking to the Facebook generation."

—Jennifer deJong



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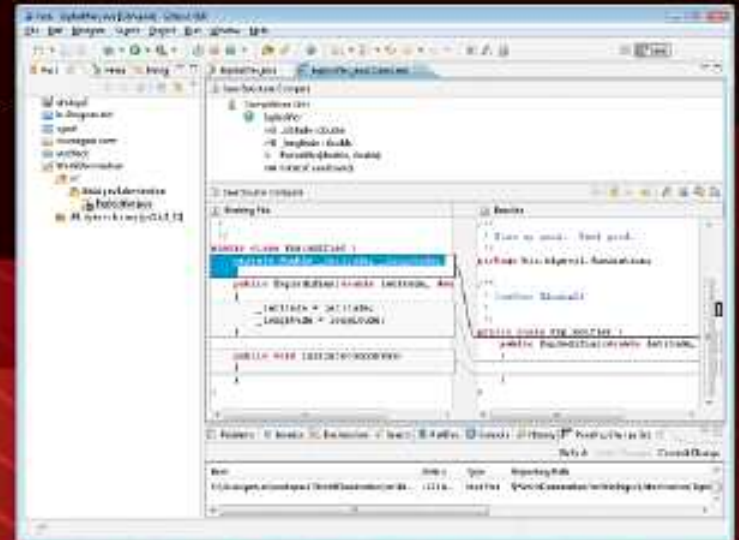


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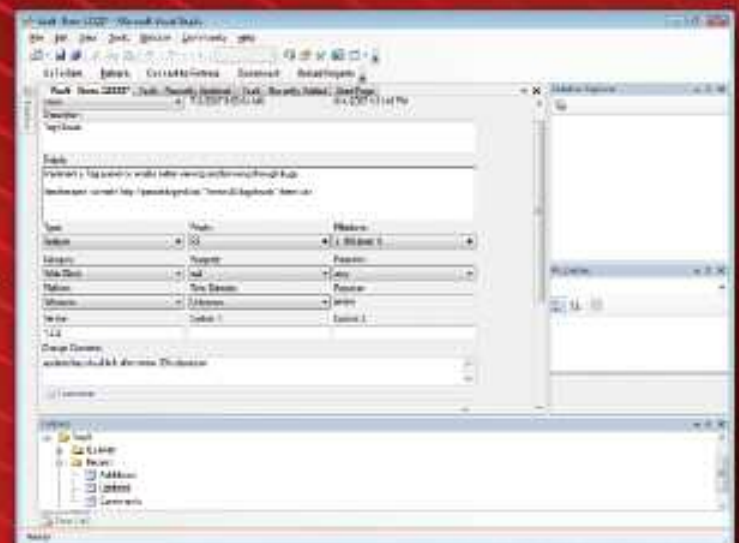


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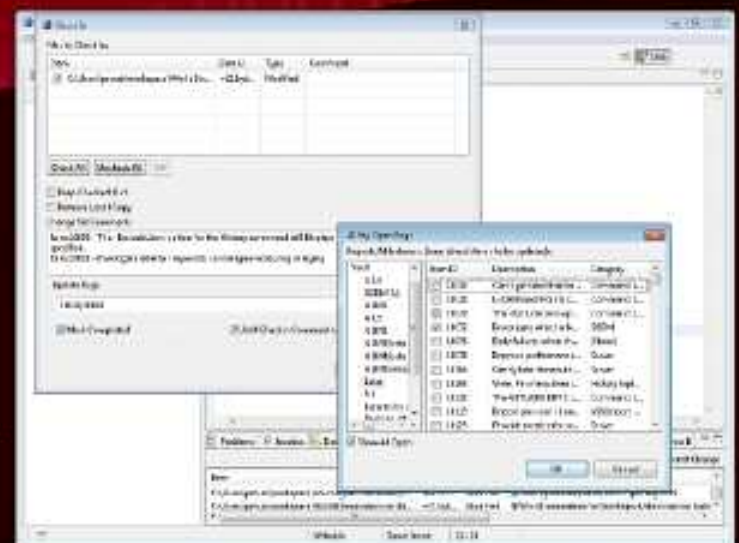
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# Experts Say Touch-Screen Voting Is

◀ continued from page 1

fore again during this primary voting season in the United States, as Americans in both parties choose their candidate for the November presidential elections.

Using optical scan machines, voters fill in an oval or connect an arrow beside the name of a candidate, and the optical scan could reject an invalid ballot. Because it uses a paper ballot for scanning, this method offers the ability to audit ballots and perform recounts, while DREs keep vote totals on computer files and lack ballots.

"You just have to trust that everything is working correctly inside the machine," Rubin said. "I think optical scan has its own challenges, but it does provide a mechanism to audit the election, which I don't think should ever be compromised. The optical scanners are computers just like the touch-screens, but they have much less code in them, and less code means fewer bugs, and it's easier to audit."

Rubin knows all too well about the vulnerabilities of electronic machines. In 2004, he manually reviewed leaked source code from Diebold electronic voting equipment and discovered problems. Since then, he has been urging states to move away from DREs.

## TOUCH-SCREEN QUALMS?

The most common vulnerability found in the machines' software is memory buffer overflows, according to Rob Rachwald, Fortify Software's director of product marketing. By using the overflow condition

in order to bypass normal operation, hackers could potentially adjust the vote count or eliminate votes by bringing down a system.

Another issue uncovered by

Fortify's SCA scanner was vulnerabilities in password storage for the administrators who access the machines.

The hardware of the voting process became a hot-button

issue after the 2000 presidential election and the disputed vote count in Florida, Rachwald noted, when the U.S. Congress called for alternative methods of voting. As a result, compa-

nies scrambled to get products to market—and governments rushed to buy them—without shoring up security.

With major security questions surrounding DREs, peo-

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Security expert Avi Rubin says that optical scan works best.



# Unreliable; Optical Scans OK

ple could lose faith in the accuracy of elections. "I grew up in an era where people didn't question the outcome of elections too much," said Brian Chess, co-founder and chief

scientist of Fortify. "But if you back up to the era of my great-grandparents, things like stuffing the ballot box or buying people votes happened. The political process wasn't as clean

as it is thought to be today. There's no reason that that kind of [corruption] can't return."

In January, Fortify offered a free copy of its SCA 5.0 source code analysis scanner to every

state government in the United States. But, as of Feb. 5—Super Tuesday—no states had registered for SCA 5.0, he added.

Chess said that the biggest

worry that DREs bring is that something could go wrong and it might never be known, because there is no straightforward way to determine whether a problem had occurred with the machines.

"In some of these primaries where we're getting record turnouts—and we're getting some very close elections—being able to shift an election by a couple of votes is a big deal," Chess said. He cited the "hanging chads" of the 2000 presidential election, in which some voters in Florida were leaving incomplete or questionable punched-card ballots.

"With the hanging chads, at least you have something you can look at and make a determination," Chess added. "And, if you need to, you can ask the Supreme Court what they think it means. You've got some evidence. With the [touch-screen] voting machines, in some cases, you have no evidence you can trust."

## TAMPERING UNTRACEABLE

Rubin agreed that it is difficult to recognize attacks in DREs, saying if software was tampered with, no evidence would remain.

When asked if one can determine whether a DRE was tampered with, Chess said that states have begun to demand that voting machine companies have their machines keep a paper record of votes cast. However, some machines were not designed to support printers, so there might not be a paper trail available for an audit or recount.

As a result, many states are moving toward optical-scan voting. Maryland, for instance, is fully electronic, but will go to paper ballots with optical scan in 2010. New York, which still uses old-fashioned lever machines, will fully implement optical scan in 2009, according to Lee Daghljan, director of public affairs for the New York State Board of Elections.

Other states, such as California, have instituted requirements for paper trails or paper ballots.

"I wouldn't say [optical scans] can totally be trusted, but I think the primary benefit is that you can check them," Rubin said. "You can't check a DRE to see if it got the right answer, but you can check an [optical] scan by counting the ballot some other way." ■

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## NEWS BRIEFS

## MORE UPDATES

◀ continued from page 8

controls for .NET and Java, has released **Search for ASP.NET 3.0**, an index-based search control for ASP.NET Web sites. New features include database indexing and improved search performance. It can work with PDF, rich text or Word documents . . . Testing tools provider Parasoft has updated its **SOA Quality Solution** to handle multiple commercial registries. This enables teams to correlate data in the context of an SOA Governance initiative, the company said. Parasoft SOA Quality Solution can supposedly now query UDDI registries from HP, IBM and Microsoft . . . The newest version of the **SmartBPM** suite from business process management provider Pegasystems helps business users capture requirements directly in the system with Microsoft Visio and Excel. A new feature called the Internet Application Composer enables companies to deploy business process applications into Web pages without additional coding or interfaces.

## PEOPLE

**Tom Libretto** has been named Nokia's vice president of Forum Nokia global activities. Libretto previously served as director of marketing for Nokia's Mobility Solutions unit, overseeing market planning for the company's recently acquired Intellisync business software. Prior to joining Nokia in 2005, Libretto held various product management positions with IBM Software Group, and Lotus Development before IBM acquired that company in 1995 . . . Requirements definition software provider **Ravenflow** has named **Susan Boers** its new president and CEO. The former president of Telelogic, Boers succeeds Joe Marasco, who will remain on Ravenflow's board of directors. Boers spent 14 years with Telelogic, handling operations in North and South America, and is credited with the success of Telelogic's DOORS requirements management product. ■

# Infragistics Pushes WPF Components for Business Apps

BY DAVID WORTHINGTON

Component developer Infragistics has nuzzled up to the notion of WPF being used in line-of-business applications.

On Jan. 29, it released updated Windows Presentation Foundation (WPF) user interface components. NetAdvantage for WPF 7.2 bundles XamRibbon, a Microsoft Office 2007-styled "ribbon," together with XamChart, a package of 50 chart types in 2D and 3D rendering styles.

The charts feature lighting effects and drill-down data access. "It [WPF] enables data visualization to the next level," said Andrew Flick, rich client product manager at Infragistics.

Flick said that NetAdvantage for WPF contains all the major pieces developers need to create line-of-business applications with WPF, and that its customers will begin shipping commercial products based on this release as early as April.

CEO Dean Guida said of the demand: "WPF is on fire,"



XamRibbon is an Office 2007-style ribbon control programmed in WPF.

adding, "People don't want to get left behind; WPF offers more than just spinning animations and immersive effects."

That being said, Infragistics is not just cycling its resources toward WPF. On Feb. 19, the company made a suite of ASP.NET AJAX controls generally available. NetAdvantage for ASP.NET is the fruit born of

Infragistics' Aikido project, an initiative to rewrite its ASP.NET controls using Microsoft's AJAX stack.

The suite features three controls: an inline Web dialog window, named WebDialogWindow; WebSplitter, a collapsible and resizable splitter pane; and a rich filmstrip control for images, WebImageViewer. ■

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# Red Hat's Open-Source SOA Stack Attack

◀ continued from page 1

cautioned. "The SOA story is not particularly strong. They have Web services support, but Red Hat is still struggling to compete with other vendor-driven initiatives," Bloomberg said. He argued that no software provider should be driving an SOA project for the client, but that many companies do allow that to happen. And, in these cases, the door is firmly closed to Red Hat.

## OPEN MIDDLEWARE

Kicking off this initiative are three projects from JBoss revealed at the conference. The first is BlackTie, an effort to build the facilities for Java applications and environments to deal with legacy distributed transaction systems. BlackTie takes its cue from BEA's Tuxedo and will be compatible with systems using that project. The primary goal will be to integrate existing mainframe C/C++ applications with Java-based

middleware environments.

Next on the list is the JBoss.org DNA project. Already under way in the open-source community, this project is based on the technology Red Hat

acquired when it purchased MetaMatrix in April 2007. The ultimate goal is an SOA governance solution that includes a UDDI registry and repository.

The final project announced

was RHQ—the product of a combined effort from Red Hat and Hyperic Inc. RHQ is a management platform that will form the basis of JBoss Operations Network 2.0, which will arrive

later this year. The platform will be used to manage services and the environments and systems that bring those services to bear in an SOA environment.

ZapThink's Bloomberg expects Red Hat's new projects and middleware offerings to help keep the company armed in its battles against IBM. ■

## REALBASIC GAINS INTROSPECTION, OTHER UPDATES

BY P.J. CONNOLLY

Real Software has added introspection—the ability to determine the type and characteristics of an object at runtime—to its development environment. REALbasic 2008 Release 1, which shipped on Feb. 11, allows for the use of advanced dynamic programming techniques in REALbasic applications running on Linux, Mac OS X or Windows.

"With this new capability, our users will be more productive, and their applications will be more dynamic and adaptable," said president and CEO Geoff Perlman, in making the announcement.

The update also allows variants to be used in new ways and gives programmers the option of explicit interface method implementation. REALbasic 2008 Release 1 contains 39 other improvements, according to the company.

REALbasic Personal Edition is free for Linux users and US\$100 for Mac OS X and Windows platforms. The Professional Edition, for cross-platform deployment, costs \$500. ■

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# Speedier Bluetooth, Mobile Linux on Display

BY P.J. CONNOLLY

Mobile Linux, a faster Bluetooth, and developer outreach grabbed the spotlight at this year's Mobile World Congress, which took place from Feb. 11-14 in Barcelona. Highlights from the show included:

**Access**, a provider of platforms including the Garnet (formerly Palm) OS, announced the immediate availability of the Access Linux Platform Development Suite, a software development kit with Eclipse-based tools available through a new developer portal. The suite also offers the Glade 3 interface editor, a simulator for Linux applications and a virtual telephony tool for simulating a carrier network. The company also announced, in partnership with **MontaVista Software**, a pre-integrated software stack combining the Access Linux Platform with MontaVista's Moblin Linux.

**ARM** announced the launch of RealView Development Suite 3.1 Professional, designed to work with the company's latest processors, including vectorizing compilation for its NEON processing engine that the company claims can improve multimedia application performance by more than 200 percent from standard C code. It also announced new 2D vector graphics software under the Mali brand, including a foundational library and modules for use with JSR 226- and JSR 287-compliant software.

**The Bluetooth SIG** rolled out a new architecture that will improve performance by piggybacking Bluetooth protocols on top of 802.11 wireless networking, in a scheme dubbed "Alternate MAC/PHY." The core specification is expected to be published to SIG members in mid-2009, and, according to the announcement, work is already well in hand.



The new Sony Ericsson Xperia X1 is the company's first handset based on the Windows Mobile platform. It offers a QWERTY keyboard and VGA display.

**The LiMo Foundation** unveiled the first handsets based on its mobile Linux platform, which itself was introduced on Feb. 4, along with supporting API specifications. Motorola, NEC, Panasonic and Samsung all announced the specific availability of LiMo Platform R1 phones, while Aplix, LG and Purple Labs announced prototype or reference implementations.

The foundation also revealed plans to provide Eclipse-based tooling in the second half of 2008 in a strategy designed to cover Java, native and Web-based SDKs. Executive director Morgan Gillis said that with new hardware as well as new members on board, "LiMo is positioned at the heart of an open mobile ecosystem that will connect developers with mobile consumers across all markets."

**Microsoft** announced a new version of the Windows Live Mobile Developer Program, including new features in the company's Mobile Services Protocol, and a new SDK that allows developers to create mobile versions of Windows Live Hotmail, Windows Live Messenger, and Windows Live Spaces that can work on

any phone operating system. The company also announced the availability of Windows Live @mobile, which is meant to allow mobile operators to deploy a standard set of mobile services such as MSN Mobile or Windows Live for Mobile. At launch, it will be available in 46 countries, with expansion planned for the next year.

**Motorola** disclosed that it would license its WTM1000 mobile WiMAX chipset to third parties, along with intellectual property licenses for the company's WiMAX patent portfolio.

**Sony Ericsson** came out with the company's first line of mobile devices built on Windows Mobile, called Xperia. The first of the new product family, the Xperia X1, is an arc slider phone with QWERTY keyboard, VGA display and an optical joystick.

**Wind River Systems** demonstrated "early look" releases of the Open Handset Alliance's Android platform on hardware from STMicroelectronics and Texas Instruments, the latter in the form of the Zoom Mobile Development Kit from LogicPD. The company also said that it would extend its partnership with **Access** and offer a pre-integrated



LiMo Foundation boss Morgan Gillis sees his group's Linux-based platform at the heart of a new ecosystem.

Linux-based platform that combines Wind River's Platform for Consumer Devices, Linux Edition with the Access Linux Platform. The combined platform allows the use of Eclipse-based development tools from either company, and is expected to become available in spring 2008. ■

## BANDING TOGETHER

**The LiMo Foundation** announced two new members of its group dedicated to promoting a unified mobile Linux platform. They are:

- Access, provider of the Garnet/Palm OS, as a Core member with a seat on the board
- Orange, mobile operator, as a founder member

Meanwhile, **Access** itself announced 11 new members of its Access Connect Ecosystem partner program. The group is composed of:

- Arphic, developer of font technology
- ChosenSecurity, PKI services provider

- Cyberon, speech-recognition specialist
- Digital Aria, authors of Mobile Flash platform
- Entrust Japan, digital ID services provider
- Expway, developer of electronic service content guides
- Gemini Mobile Technologies, community and messaging software
- Matsushita, known to many as Panasonic
- Navitime, in the fields of mapping and navigation
- Stratus Technologies, infrastructure specialists
- Wind River Systems, embedded platform provider

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# Eclipse Maneuvers For Domination

## Java conquered; C/C++ next?

BY ALEX HANDY

It's been seven years since the Eclipse IDE turned toward open source, and five since the Eclipse Foundation was formed. Millions of lines of code have passed into and out of the project, and hundreds of plug-ins have been written. Nobody knows exactly how many flavors of Eclipse are out there now: possibly thousands, with new companies and groups gathering to build their own versions almost daily.

With success bordering on the obscene, Eclipse has definitely conquered the Java world. Where once there were numerous Java IDEs from which to choose, Eclipse has become the de facto standard, with NetBeans, IntelliJ and all others constantly playing catch-up. With such dominance in the enterprise Java development market, the Eclipse community has set its sights on many new targets for domination.

With projects and developers lining up now to prepare their goods for the June release of Ganymede, Eclipse version 3.4, the future of this IDE is no longer confined to coding, integrating and modeling.

### BIGGEST MOON IN THE SOLAR SYSTEM

It is appropriate that Ganymede is not only Jupiter's largest moon, but also the largest moon in our solar system, in fact. This icy giant is larger even than Mercury, though it's not nearly as dense. And the upcoming release of Eclipse that bears its name will also likely be the largest release yet seen by the project.

Ganymede will be a coordinated release and will include updates to many core packages. Indeed, it's a massive undertaking, said Ian Skerrett, director of marketing at the Eclipse Foundation.

"For the fourth year in a row, we'll be releasing in the last week of June," said Skerrett. The release is so large and includes so many projects updating at once that Skerrett couldn't remember the exact number.

"I'm sure it's more than 20 projects. That's definitely a big event for us in Eclipse," he said.

That list includes numerous new projects and extensions of

old ones. For model-driven development, the Eclipse Modeling Framework will get an update, thanks to some new tools for the task.

The Model-to-Model project includes facilities to transform models in model-driven development. Developers saddled with old application models will be able to coordinate the transformation of those old specifications to new ones, with a simple interface for aligning elements with their counterparts.

Once those models are finished, the Model-to-Text project offers paths to export them for easier reading, manipulation and digestion by simple parsers. Exporting models into text files, after all, is the easiest way to get a crack at them with Perl or other text-centric processes. That should bring a host of old-world tools to bear on the new world of model-driven design.

### DO YOU C WHAT I C++?

Elsewhere, Eclipse's C/C++ chops will be getting another bump up from CDT (C/C++ Development Tooling). That project has long sought to find its niche in a world dominated by Microsoft's Visual Studio. Doug Schaefer, engineering manager at Wind River and CDT project lead, said that 2008 would see many changes and improvements to his pet project.

As last year progressed, Schaefer and his compatriots prided themselves on an ever-increasing stream of Linux distributions that shipped with Eclipse and CDT pre-installed for developers. The project's audience has grown to about 20 percent of the total Eclipse user base, according to a BZ Research study.

That's not to say it hasn't been tough going, at points, he admits. "The biggest technical challenge was source navigation. You're writing parsers in Java," said Schaefer. "We're building a C++ IDE, yet we're writing it in Java."

Those parsers, however, are a point of pride







## Ganymede

Ganymede will be the largest Eclipse update yet, with 24 projects and sub-projects all updating at once. Those feeling frisky can head over to Eclipse.org and check out pre-builds and developers' previews of most of the projects listed below.

**BIRT:** Business Intelligence Reporting Tools

**Buckminster:** Assembly-line style build, assemble and deploy tools

**CDT:** C/C++ Development Tooling

**DLTK:** Dynamic Languages Toolkit

**DSDP DD:** Device Software Development Platform

**DTP:** Data Tools Platform

**ECF:** Eclipse Communication Framework

**The Eclipse Project:** Improvements to the core editor and platform

**EMF:** Eclipse Modeling Framework

**EMFT:** Eclipse Modeling Framework Technology

**EPP UDC:** Eclipse Packaging Project Usage Data Collector

**Equinox:** The OSGi services platform in an embeddable form

**GEF:** Graphical Editing Framework

**GMF:** Graphical Modeling Framework

**MDT:** Model Development Tools

**M2M:** Model-to-model, transformation for model-driven development

**M2T:** Model-to-text

**Mylyn:** Saves the context of workspaces during programming sessions

**RAP:** Rich Ajax Platform

**STP:** SOA Tools Platform

**Subversive:** Subversion integration for Eclipse

**TPTP:** Test and Performance Tools Platform

**WTP:** Web Tools Platform

for the CDT team. "We want to beat Visual Studio," Schaefer said. "I think CDT has a pretty complex source navigation system. We built in C/C++ parsers that gather a lot of information about your source code. They're similar to the IntelliSense auto-completion in Visual Studio. We think ours is a lot more complete. In that sense, we've actually passed them. We've known Microsoft has poked around and watched our progress over the years."

While Redmond may be concerned about Eclipse's challenge to its C/C++ IDE dominance, the CDT project is bringing cohesion to the disparate world of embedded development. As an engineer at Wind River, Schaefer has a vested interest. So too, he said, do the majority of CDT users. Why is CDT so popular with embedded developers?

"I think a lot of it had to do with getting the embedded systems vendors interested in Eclipse technologies," postulates Schaefer, his own company included. "Once one of them started, they all got involved. There's been a hole in the embedded market for an IDE." Now, said Schaefer, that hole is filling up, as embedded companies offer up their own flavors of the IDE built specifically for their platforms.

To more fully win the war against Visual Studio, the CDT project is tackling another historically strong point of Microsoft's IDE: the build system.

Schaefer said that Visual Studio

"does all the builds behind the scenes for you. There's still a ways [for CDT] to go to match the usability of that framework. I think part of the problem is [that] CDT is trying to target so many platforms. Microsoft is only supporting Windows development, and Windows CE development. They know the compilers and all the options. We're trying to be as flexible as possible."

### A TIME TO RUN

In the past, it would have been enough for an IDE to target Visual Studio. Toppling Microsoft from its lofty perch is a goal worthy of Alexander the Great—or, at the very least, Larry Ellison. But for the Eclipse Foundation, tackling Visual Studio is simply one front in a much larger war. And that's more than a battle about building code; it's about building applications on top of Eclipse's solid framework.

Perhaps the strangest, but potentially most rewarding, new avenue explored by Eclipse's contributors is one dominated by Tomcat, WebSphere and WebLogic.

This year, Eclipse will become a runtime platform. More accurately, it will gain the underpinnings needed to make Eclipse a more usable platform for building and running large applications.

The foundation on which much of Eclipse's future as a runtime environment will be based is Equinox. In fact, it will soon be moving under the auspices of a new top-level Eclipse project. This year, Equinox will be undergoing some significant changes, said project lead Jeff McAffer, who has been involved in Eclipse since its creation at IBM.

Equinox is a stand-alone implementation of the OSGi standards and frameworks. It's a fancy way of saying that Equinox is an application scaffold and engine, waiting for the gears to connect to the drive train, com-

continued on page 38 ►



# Having Conquered Java, Eclipse Moves

◀ continued from page 37

bine, thresher, cotton gin, tank treads, or any of a thousand more modular metaphors. What makes Equinox so powerful, however, is that you can replace the engine/treads/

wheels of this metaphorical vehicle, without having to stop the car.

"People are coming to us with projects and project proposals around using Eclipse as a runtime or a middleware environ-

ment," said the Eclipse Foundation's Skerrett. "RAP [the Rich AJAX Platform] is a good example: It's a runtime built on top of Equinox. We've got Swordfish for doing SOA runtime. There's another project, called Riena,

focused on making it easy to do client/server applications based on Equinox. People are very interested in building on top of Equinox and in runtime components that can be used downstream."

"The broader context for this is that there are a bunch of projects at Eclipse that are runtime-oriented," said McAffer. "The Rich Client Platform [RCP] has been around for a long time now. What we're seeing is more projects showing up that are runtime infrastructure. I want to use the term middleware, but that word comes with a great deal of baggage," said McAffer.


"If you take it to the English definition, though middleware is a made-up word, the basic definition is 'all the gorp you need at runtime,'" said McAffer. "Eclipse was in that space in RCP, but now we're advancing the notion of Eclipse as a runtime, with projects like Swordfish and Riena. There are now a large number of these projects at Eclipse."

"What we're doing in 2008," he added, "is we're going to create a new top-level project: the Eclipse Runtime Project. It will house a number of these things we mentioned: RAP, Swordfish, Riena and Eclipse Link, all those sorts of things. The idea is to get a bunch of people who do Eclipse runtime stuff together, so they can get coordinated. In the future, in the runtime space you can say 'I want to run a simple server,' and there will be [an Eclipse] package you can get for the common commodity cases," McAffer predicted.

## A SECURITY THRUST

Of course, that means there will have to be some major changes to Eclipse as a platform. First, said McAffer, he and the Equinox team are building in more security features. Specifically, they're building connections and hook-ins for the traditional Java key storage and security capabilities. This will all tie into a newly introduced notion of trust in Eclipse. In the future, users will be able to lock off certain functionalities and connections based on the privileges of users, just as they can in traditional application servers. Those locks and permissions then can be federated across networks, or synced with existing identity management systems.

That, however, means enabling Eclipse to talk with identity servers, and to federate information about identity. It's a




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# Toward Domination

new world for Eclipse, but one that must be addressed in order for the growth to continue.

This newfound ability to link into existing security systems should help the many companies already building applications and environments on top of the Eclipse platform with help from RCP. Of course, more ways to use the software will mean Eclipse will have to become accessible to users around the world.

John Kellerman, product manager for Jazz and Eclipse at IBM Rational, said that his company has teamed with an unlikely partner to accomplish just that.

"We've gotten together with BEA and several others and have created the Babel Eclipse translation project. We're collaborating on open-source translations of the Eclipse platform," said Kellerman.

Although these two three-letter companies, and a handful of others such as Aptana, will be collaborating on Project Babel, they won't be building all of the translations themselves. Instead, Project Babel seeks to build the tools necessary to translate Eclipse, putting the capabilities in the hands of those who will need it.

It may sound somewhat more haphazard than a standard translation project, but open-source software has already proved to be some of the most quickly translated stuff in the world.

Bill Roth, vice president of tooling at BEA, used to supervise such development for OpenOffice.org when he was at Sun Microsystems. When his team released translation software and asked for folks around the world to chip in, he saw a single team of volunteers in Hungary translate an entire suite of tools in one weekend.

## TRULY A LEAP YEAR

The Eclipse Foundation's Skerrett sees 2008 as the year that Eclipse and its contributors will begin to clip the strings that tie the platform to the desktop. He envisions a future in which applications are built on top of Equinox and Eclipse and are deployed to all manner of systems and use cases. For him, it's just a logical progression.

"Think of this as being kind of an evolution, where you

started out with Eclipse being a tools integration platform, where you build your tools as components and bundles that you integrate together," said Skerrett. "In 2005 and 2006, we [saw] people taking that idea

and applying it to desktop applications. It has nothing to do with developer tools; it's just an interesting platform to build applications on."

Now that desktop developers have discovered the advan-

tages of integrating components, rather than building massive application functionality from all directions, there's no turning back, said Skerrett. "The next step was to generalize this. You might have a UI, you might not have a UI. You might have a UI on a cell phone, like an embedded rich

client platform. I really view this as an evolution in taking the platform toward being more generalized, and the people make it more specific. People are surprised because a lot of people think of us as a tools integration platform. Equinox is to be viewed as much more than that." ■

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# Democracy Transcends Closed Source

Part of the American myth is that although some elections are dirtier than others, one must be living in a backwater part of the country for elections to be well and truly stolen. That's not the case anymore, with optical scan and touch-screen voting machines now commonplace. Many communities are already finding that their machines that appeared so high-tech and spiffy a couple of years ago are no longer suitable.

Those of us who remember mechanical voting machines—and if you live in New York, for example, you still use them—might have known that they weren't foolproof. But the technology behind them was understood and trusted by most of the citizenry. Not so with most of today's voting systems, which often rely on closed-source software. That reliance is unconscionable.

The software used in voting machines, in every nation, should be open source, freely and publicly available, period. And it should mimic every other part of our transparent election process. That is the only way that these devices can be trusted to be the equivalent of the physical ballot box.

For many devices, that will be a problem, because the manufacturers have licensed someone else's code to get some of the raw functionality going—Windows Mobile is apparently at the heart of many touch-screen systems, for example. But voting is one case where if it can't be done without closed-source software, it shouldn't be done at all.

Other manufacturers are crying "trade secret" when the idea of open-sourcing voting machine software arises.

Normally, SD Times is a proponent of protecting intellectual property. However, this is an exception. In a democracy, the process of electing a candidate should not be determined by a company's proprietary software, protected only by "take our word for it" guarantees of openness, fairness and reliability.

## Good Code Can Skirt Bad Workers

Our story about Navis, the company that makes shipping port automation and management software, brought to light an interesting problem with which many developers are intimately familiar. The company's software required input from workers to close out tasks and jobs that had been assigned. The company even reduced this input to a single point: the pushing of one button. Still, some workers refused to push that button.

The solution was to install sensors and receptors around the port to detect where machinery had moved, then allow the software to deduce the completion of tasks based on the location of equipment.

It's an example of how quality engineering can trump quality laziness. Experience has taught most managers that they should never underestimate the ability of the universe to build a better idiot. Or a better layabout.

While most projects don't have the luxury of detecting users' physical proximity to various tasks, this example is nonetheless a good starting point. If your users aren't willing to fill out their forms properly, or to submit bug reports when things go wrong, maybe there are programmatic ways to compensate.

Perhaps the bug report dialog box that pops up when your application crashes shouldn't have a "cancel" button. Or maybe a rough algorithm for comparing form data input to previous inputs could help to identify bad users, allowing for a digital reprimand.

Of all the companies in the world currently building software, Google understands this best of all: The company has integrated automatic spellchecking into its search engine and has steadfastly refused to pack its front page with meaningless clutter. ■

## SHORT TAKES

**AN E-MAIL FROM A LAW FIRM** told me the other day that I held documents that could determine the future of Microsoft's application for a patent covering technology in its Security Center. The tale starts with an article that I wrote four years ago, in February 2004, announcing the launch. This turned out to be one month before Microsoft applied for the patent, in United States Patent Application 20050257268. A patent examiner apparently mistook my coverage for prior art, and Microsoft was denied the patent. Being a nice guy, I sent the lawyers a declaration that the subject of Application 20050257268 belongs to Microsoft. I wonder what security software makers think about Microsoft's attempt to patent Security Center.

— David Worthington

**NBC'S SATURDAY NIGHT LIVE** can teach us a lot about project management, from a writer's perspective: Your mandate is to write anything, provided it's funny. That kind of freedom is obviously a challenge, as each show features a mix of hilarious material and lame premises. We all want to think outside of the box, but when there are no walls constraining your thought processes, there's also nowhere to tack up those inspirational posters of John Belushi in the "College" shirt. Simply giving your developers a blank space and demanding that they create will only lead to lame projects that go on too long.

— Alex Handy

## LETTERS TO THE EDITOR

# A Pattern Emerges

I found the article "Patterns as Anti-Patterns?" (Jan. 15, page 39) very interesting, but one comment made me chuckle, because I have experienced exactly the opposite. You mentioned that some patterns are so obvious that they aren't as interesting to point out in the Gang of Four (GoF) book, and you gave the example of the Facade.

I implemented software with Facade patterns before I knew the pattern's name. But, about five years ago, I asked one of the senior developers from our team to start designing a facade for a generic database model bought from a third party; it had a very generic API to handle records for each table. What he came back with made me not want to work with him ever again: He designed a one-to-one method for each generic API. So much for delegating work to an experienced developer.

**Niraj K. Patel**

Newark, Del.

I am a professional C++ programmer who has been writing reliable programs. While I have used design patterns, it is not because some academicians told me to; it was because the design needed it.

We have been mocking the GoF for years, because it is just plain silly and pompous—and who the hell do they think they are anyway? How come they get to say what is a pattern? Why must a pattern have been used to be valid? Does this mean new patterns are invalid upon first use?

I should note that many of the patterns are useful and frequently used. Too bad you had to spoil it all. Please retract this statement, or you will be forced to write a C compiler in C.

**Jim Donelson**

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## Horizontal Mobile Apps Tapping Out

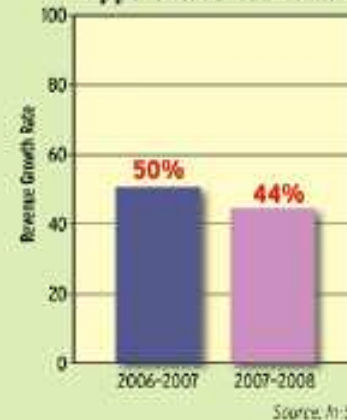
U.S. revenue growth for mobile business applications will remain strong in 2008, according to data from market researcher In-Stat. But that growth is expected to slow during the year, as business users near saturation for horizontal applications.

Most of the potential lies in vertical market applications, which are more complicated than the cornerstone apps of e-mail, instant messaging, Internet access and personal information management, according to In-Stat analyst Bill Hughes.

"Wireless Data in the Enterprise 2007: Avoiding a CDPD Reprise" is a report that offers forecasts for mobile data applications through 2011 and is available for purchase from [www.instat.com](http://www.instat.com).

## DATA WATCH

### Mobile Business Apps Growth to Falter





# Realizing the Value, Cost of Open Source

While the open-source tidal wave may have started as a grassroots, anti-establishment movement, today the use of open source in corporate IT and for commercial products has become so commonplace that it's almost impossible to imagine a world without it. Ironically, what was created to free individuals from the handcuffs of big business has been embraced by those very businesses because of the enticement of lowering costs, speeding time-to-market, and leveraging work produced by an army of developers not on their payroll.

From a corporate standpoint, open source offers several other major benefits:

- a continuous innovation pipeline with capacity beyond that of internal development teams,
- the chance to focus resources on developing differentiating technology,
- flexibility associated with openly licensed solutions instead of suffering from single-vendor lock-in, and
- compatibility and interoperability with other products built atop a common open-source framework.

Most people would agree there is real business value to be gained from open source. The precise value frequently is not—or cannot—be quantified, but we generally accept that by using open source, capital expenses can be reduced. But capital expenses are only one facet in the TCO and ROI equations.

## OPEN SOURCE DOESN'T MEAN 'FREE'

With the increased adoption of open source in areas such as IT infrastructure (like Linux, Apache, MySQL), enterprise applications (Compiere, SugarCRM, Asterisk, Medsphere), and development tools (Eclipse, NetBeans), one thing has become clear—the advantages identified above come with a price.

Open source doesn't equal "free." Sometimes, savings in capital expenses can be more than offset by a jump in operating expenses. Given that developers are leveraging technology from disparate sources, there is often an inherent cost to integrate, deploy and maintain both the applications built using open-source components and the open-source tools themselves. Those costs may be hard to calculate, however, because they are largely labor of employees, instead of checks cut to software companies.

Still, some companies are quantifying the full costs of leveraging open-source technologies, and the greater community is developing strategies to maximize the benefits and demonstrate tangible time-to-market advancements and productivity boosts. Worries about security, reliability and support that prevented the widespread adoption of open source in

the early days by technology-intensive industries, like financial services, have given way to robust commercial enterprise-class applications that can support processes like arbitrage trading.

## THE IP EFFECT

I spent a big part of my career selling software to the semiconductor industry, where the evolution of intellectual property parallels the open-source movement in commercial software.

Deep-submicron process technology created a platform for developing innovative products but spawned new problems for engineers: How should they take advantage of the billions of transistors that were suddenly available? The solution was to use pre-defined core functions, or IP blocks (think USB or PCI Express).

The panacea scenario was the ability to stitch together IP blocks rapidly to create highly differentiated systems-on-chip (think applications). In addition, the approach theoretically would lead to significant reuse on subsequent projects. A cottage industry of commercial IP vendors emerged to satiate the demand for IP blocks (much like open-source providers today). However, infrastructure barriers prevented companies from fully leveraging IP-based design, including a plethora of licensing approaches and a lack of consistent quality, standard interfaces and tooling for this design approach.

Early adopters trying to leverage commercial semiconductor IP found themselves taking a step back in terms of productivity, instead of two steps forward. They saved money up front by not wasting engineering cycles developing non-differentiating IP blocks. Sometimes, they spent more in aggregate to solve their integration and productivity issues.

Eventually, industry standards emerged to help lift many of these barriers, including common licensing terms and standard APIs. But the last barrier to be removed was the eventual availability of commercial tooling to help them maximize the productive use of IP.

Does this sound familiar? Confusion and economic barriers due to licensing, quality and support issues, lack of standard APIs to ease integration, lack of tooling. These are the same issues IT departments have been facing with open source.

## QUANTIFYING THE COSTS

Most companies fail to identify and quantify the true costs associated with developing enterprise-class applications that use open-source components and tooling. Cost Xpert, a provider of services and solutions for integrated methodology-driven estimation of

effort, recently conducted research on Java development productivity that analyzes some of those factors.

In their studies of commercial Eclipse-based Java IDEs being used by small to large companies, they looked at the productivity benefits of employing commercial Eclipse-based Java IDE products from several companies.

Cost Xpert focused on team configurations and projects of varying sizes that were modeled and measured within two scenarios: building new Java-based applications, and enhancing and maintaining existing Java applications.

Features and benefits assessed included development cost, time-to-completion, and application quality evaluated across four categories of projects: new-large, new-small, enhance-large and enhance-small. For each category, they examined the overall ROI for a large consulting organization, a multibillion-dollar global corporation and a rapidly growing company. They looked at total development life-cycle costs, not just coding effort.

## ECLIPSING BASELINE SETUP

Research showed that in new projects, the cost advantages of using a commercial Eclipse-based Java IDE over the baseline Eclipse configuration were often as high as 10 to 34 percent, depending on the size of the project and the specific commercial IDE. Those benefits were due largely to the team collaboration, productivity and quality enhancements that the most robust IDEs had provided over the disparate Eclipse open-source components.

Further, the commercial IDEs outperformed the baseline Eclipse configuration by 51 percent to 94 percent. Perhaps the most staggering statistic was the 11 percent to 42 percent net benefit to a company's total development budget.

To continue the arc of progress in the open-source evolution and to capitalize on the benefits of commercial tooling, there must be a continuum of adoption, where the elements of commercial software combine with the most mature open-source systems, and risk is managed.

Many of the most successful companies are taking a multi-pronged approach. They foster innovation among their developers, and they enhance productivity with better tools. They allocate budgets for the integration, deployment and maintenance of open-source technologies. Today, more than ever, the success of a company rests on its ability to innovate and differentiate itself in the market. So, while open source may not be free, it is a valuable and integral part of the bigger picture. ■

*Jim Douglas is CEO of CodeGear, the tools subsidiary of Borland, which sells commercial IDEs based on Eclipse.*

Jim Douglas



Guest View

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# The Business Case for SOA

As I write this column, I'm at the Open Group Enterprise Architecture Practitioners Conference, held this year in San Francisco. Earlier today I delivered the keynote address on enterprise architecture and SOA, and then spent the rest of the morning participating in a panel on the same topic.

This time, I did something different. Instead of telling the audience what a SOA is, how to build it, and then how to justify it, I did things in reverse order. I first focused on the business case, spending most of the time on this, then the value, and then how you define and build it. Pretty risky, considering the attendees. I could have been pelted with flash memory drives, and those puppies hurt.

However, the business-case-first view of SOA, as it relates to enterprise architecture, was just what they wanted to hear. Far too many times, people build SOAs because they think it's just the right thing to do from a management-by-magazine perspective. Or they're just going along with the crowd, and don't consider the business case for SOA because that question is difficult to answer—and you may not like the answer.

The business case for SOA is easy enough. It comes down to a few major issues that include reuse, visibility and

agility. However, you could have some additional issues that are unique to your enterprise.

Reuse, while oversold and overdone in the past, is still a core business consideration when contemplating SOA. While code-level reuse failed for reasons that are obvious, binary- or interface-level reuse in the world of SOA has a real chance of working. Indeed, it does not matter how you code your service, or what language or platform you use, as long as you adhere to a standard interface, typically SOAP/WSDL.

When making a business case for reuse, there are a few things to consider. First is the ability to catalog and reuse services. Second is the organization's ability to adopt reuse. Finally comes the number of times your thin services are reusable. In other words, what's the value of having reusable services considering your need and your willingness to reuse services? Your mileage may vary a lot here; reuse can be hugely valuable in one enterprise, and worthless in another.

Visibility is a key advantage when selling SOA. In short, it's the ability to see data and behaviors throughout the

enterprise and aggregate those data points, in real time, to people or systems in the organization that make critical business decisions. Or, put another way, the ability to provide an executive dashboard to the C-levels in the organization is what counts.

The core value here is visibility, which leads to control. If the managers

and executives can see critical data and respond to it in near-real time, there can be huge savings in the enterprise when you consider the cost of "decision latency," or the money wasted before somebody notices there is something wrong and makes the correction. The way you value visibility is by defining the cost of decision latency to the business, and thus determining the value, if SOA is indeed able to remove it.

Agility is where the real money is made in the world of SOA, but it's also the most difficult to quantify. In essence, we're saying that the more your business changes, the more SOA will bring value in the form of agility.

Like the visibility issue that I raised above, agility is really about removing latency. The value of removing that

latency can be a lot or a little, depending upon what business you're in, how much you change, and the value of that change. For example, many manufacturing organizations don't need to change, and even if they do, the change often has a low value. Thus the value of agility is rather low. Financial services companies, on the other hand, must constantly change. It's the nature of their industry. Typically, the value of change is high (e.g., adjusting to a new regulation), and thus the value of agility is high.

The paradox is that creating a business case for SOA is rather easy. However, those who create SOAs don't typically like to create business cases, so there is no good way to communicate value between the business leaders and IT. It almost makes sense to have a business analyst who is part of the IT team. Indeed, a few IT organizations now have them.

The reality is that SOA requires a strategic investment in process, approaches, methods and technology ... in short, architecture. We're talking millions of dollars, considering most Global 2000 enterprises, and most leaders, won't sign off on those kinds of numbers without a clear business case. Thus, those of you looking to do SOA might as well get the hang of creating a business case. It's not that hard. ■

David S. Linthicum is a managing partner at ZapThink. Reach him at david@zapthink.com.

## SOA Watch



David S. Linthicum

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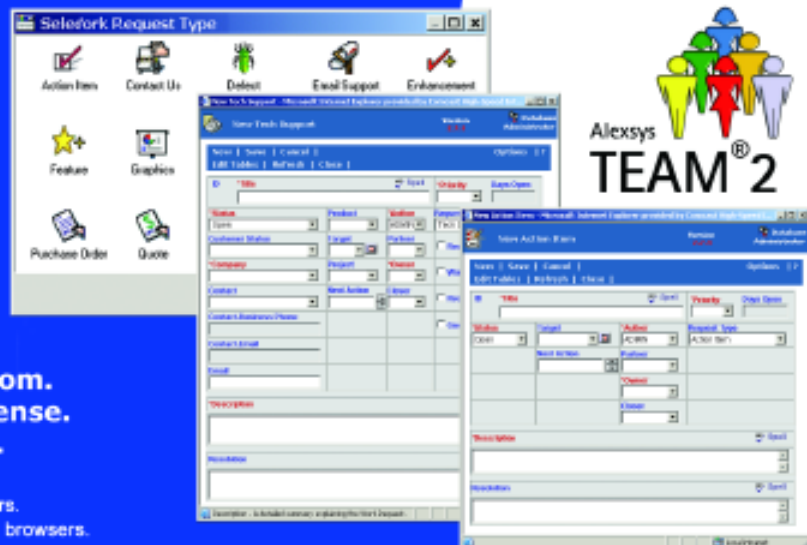
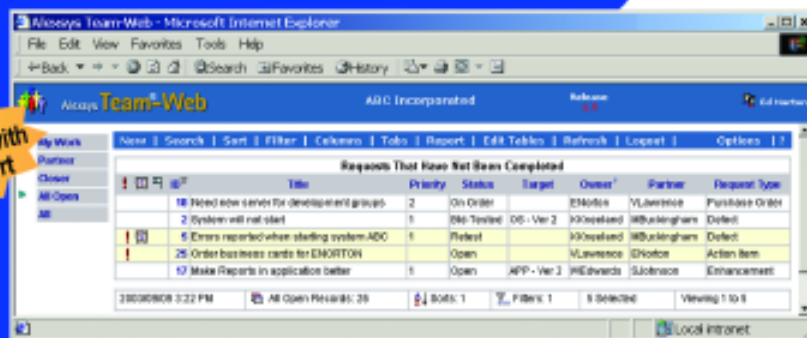
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# The Great Undiscovered Development Tool

Last year, VMware released version 6.0 of its original flagship product: VMware Workstation. This product put the company on the map by enabling developers who wrote software on Microsoft Windows to test their code on earlier versions of Windows and on various Linux distributions without having to switch machines. In its first few releases, this process was distinctly cumbersome and certainly not fail-safe, but it worked well enough to become a crucial part of the cross-platform developer's armory.

Despite the magic, it was not until VMware discovered server virtualization that the company's fortunes really took off. However, even as server virtualization has come to define the use of virtualization, VMware kept on advancing the Workstation product. And over the years, it has become steadily more reliable, easier to use and significantly faster.

Version 6.0 adds some features that are very interesting to developers but surprisingly little-known in the programming community. I'll look at these, warning that I won't stick solely to 6.0 features, but will also discuss some aspects that date back to the 5.0 and 5.5 releases.

The first of these features is the easy ability to create snapshots of a VM. The default snapshot is a delta from the base VM, and it can occupy as little as 26MB. And you can use the VM while the snapshot is being generated. The benefit is that if you make a snapshot and later corrupt your VM, you can simply roll back to the snapshot and resume work there. So, for example, if you're running a functional test that might unhinge the Windows registry or render a file system unusable, you can do so without having to start over with a spanking new VM image should the damage actually occur. You simply erase the slate by regression to the snapshot. You can also take snapshots of crashed machines—something that's impossible with physical PCs.

Another cool thing you can do is make a running log of activities in the VM. You can save this log to disk and replay it later. This record capability is superb when you're about to trigger a bug that will corrupt your system or bring your application to an unseemly state of self-immolation. Readers familiar with BMC AppSight will see an echo

of it in this VMware feature, but Workstation's capability is not yet as advanced.

For example, VMware requires that the VM be configured only for a single processor, and that it disable audio, USB and CD-ROM features. The logging is also very slow—opening Internet

## Integration Watch



Andrew Binstock

Explorer and doing a single Google search took nearly five minutes. However, if you enable recording only at the moment you need it, you do obtain a faithful recording of truly everything that happened in the VM, including the processor state, computer screen, incoming and outgoing network data packets, and so forth. This is a potentially invaluable debugging resource. If you try it, I suggest writing the recording data to a RAM disk for performance reasons, as the simple lookup I described generated 122MB of log data.

Finally, Workstation 6.0 includes remote debugger plug-ins for Microsoft Visual Studio and Eclipse (for Windows and Linux). These permit remote debugging of programs running in the VM. And if you want to access the machine even more completely, you can

do so through Virtual Network Computing (VNC), as the VM can be configured to be a VNC server. (See [realvnc.com](http://realvnc.com) for more information on VNC.)

These development features are in addition to the more robust Workstation capabilities, which now include the ability to run two processors, to display two monitors (with spanning), or to have the VM appear on a designated monitor. Workstation also runs most 64-bit operating systems now, including Vista (but not Aero), the major versions of Linux and FreeBSD.

At US\$189 retail, VMware Workstation is a great deal. It provides unique functionality that is directly useful in testing and debugging efforts. And, I should point out, none of these features is available in the free alternative, Microsoft's Virtual PC products, except the ability to run old versions of Windows.

The important thing is that VMware has continued to add developer features to Workstation. I expect that the company will continue advancing the capture and replay ability, making it faster, so that it can be used to capture unattended sessions for replay in a post-mortem when a bug occurs. Meanwhile, the features it does offer currently are, in my view, compelling. ■

*Andrew Binstock is the principal analyst at Pacific Data Works. Read his blog at [binstock.blogspot.com](http://binstock.blogspot.com).*


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# Dynamic Might

There was no official theme designated for the Lang.NET symposium, Microsoft's irregular colloquium for compiler and language geeks. But the company might as well have hung a banner on Building 20 saying, "No Static Typing!" True, everyone expected the emphasis on the Dynamic Language Runtime, which will become available in the browser as part of Silverlight 2.0, but it was still disconcerting to be at a Microsoft conference and hear more about Java runtimes than C++ compilers.

The presence of such Java luminaries as Charles Nutter, John Rose, Brian Goetz and Gilad Bracha was a breath of fresh air. Nutter said he felt he was in a "mirror universe," facing the same concerns but tackling them with slightly different strategies. Although there was some reflexive rivalry—Microsoft's pride in the CLR/DLR was countered by Nutter's occasionally dismissing a feature as "they need to do that because they don't have as good a runtime optimizer as Hotspot"—such pro forma sniping was largely submerged by a passionate agreement that "dynamic is clearly best!"

That was the title of one slide by Chuck Esterbrook, whose Cobra Lan-

guage (cobra-language.com) extends Eiffel-style contracts with built-in unit testing. The next slide read, somewhat heretically for the conference, "Static is clearly best!" In fact, of the languages presented at the conference, Cobra seemed to have the most compile-time features and was well suited to creating reliable software.

Software reliability was another theme, with a presentation by Peli de Halleux and Nikolai Tillman on PEX, a Microsoft Research project that uses a constraint solver systematically to flush out unexplored execution routes. And Wesner Moise discussed NStatic analyzer, which promised breakthrough capabilities and might be in public beta as you read this.

## JAW-DROPPING DEMOS

Reliability is also part of the promise of Intentional Software, the company of Charles Simonyi (he of Hungarian heritage and space tourism) that has been on the road to beta for several years. Magnus Christerson gave a jaw-dropping demonstration of what the company has developed, which I'll

explore in a future column.

There were other jaw-dropping demos, the highlight of which was Giles Thomas' presenting Resolver One (free for non-commercial use from resolver systems.com), which is a Python-powered spreadsheet that could also be described as spreadsheet-powered Python. This is a hands-down brilliant application that gives you the same shock of "Yes, that's exactly how it should be!" appreciation that comes too rarely in the field of software. Between that and Jim Hugunin's controlling a robot in perhaps 10 lines of code, Microsoft's IronPython implementation looks close to "fully baked."

Other attendees gave great reviews to Dan Ingalls' Lively Kernel, an in-browser JavaScript-powered environment. Ingalls architected five generations of Smalltalk. I mean it as a compliment that my reaction to the Lively Kernel was, "But ... if you want that experience, why not use Smalltalk?" (The answer, I think, is that JavaScript and browsers are universal.)

I fell like a ton of bricked iPhones

for Gilad Bracha's NewSpeak, a language not publicly available (note to self: write passionate letter to Sun) that appears to combine the best qualities of, well, just about every high-level language. As a programming language geek, I use, "What would a compiler look like?" as a benchmark for evaluating languages. And my mind tells me my infatuation is due in part to NewSpeak's emphasis on "executable grammars," but my heart says that NewSpeak and I belong together.

I can be more rational about Volta, available at labs.live.com/volta as a technology preview. The promise of Volta is that you develop a .NET application locally and then use "declarative tier-splitting" to migrate it into a browser-server experience. The presentation by the speaking-of-dynamic Erik Meijer moved me from "dubious" to "cautious," and I look forward to exploring Volta.

I don't have the space to praise the pragmatic discussion by Martin Maly on working with the DLR back end, Harry Pierson on Parsing Expression Grammars, and the "mixins for C#" developers of re-motion.org, but perhaps I've loaded up enough keywords to give them—and the rest—some link love. ■

Larry O'Brien is a technology consultant, analyst and writer. Read his blog at [www.knowing.net](http://www.knowing.net).

## Windows & .NET Watch



Larry O'Brien

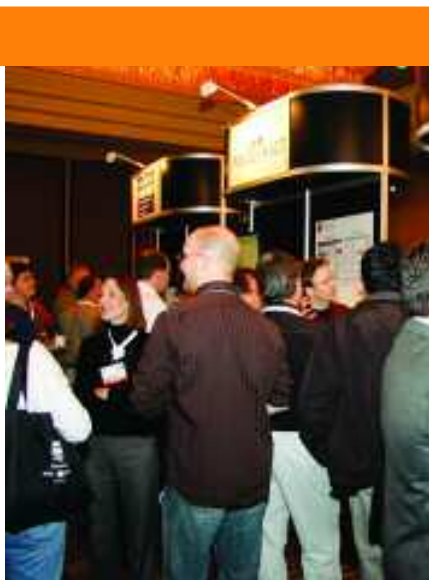
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# Not Your Father's Outsourcing

It's 2008, and this is not your father's definition of outsourcing. Two companies with updated views about software development engagements are showing that many of the pitfalls of sending work away can be overcome.

At GlobalLogic, CEO Peter Harrison said both the engagement and business models are changing to reflect the needs of companies being started by domain experts, not technical experts. And at TopCoder, the social network of developers who vie for work has exceeded 140,000 in more than 200 countries, proving the concept of "crowdsourcing" can be an efficient way to create quality software components.

"In the last couple of years, companies are really looking to engage in a global model earlier in their lives," Harrison said. "We're now engaging with entrepreneurs directly instead of engineers."

Harrison explained that GlobalLogic would get approached by companies that already had products they wanted to extend or build out—"a team extension type model," he called it—with a retainer to GlobalLogic and performance incentives. Now, Harrison said, "It's businessmen who say, 'This is what I need and this is how much I can spend on it.' It's much more project-oriented. We give a fixed bid based on a napkin, a date and the vision."

Those entrepreneurs want to define their products and find the paths to market, but they are looking elsewhere for the end-to-end engineering—a take on the "as-a-service" model that now increasingly includes development. "It's a flexible model," he noted. "You can tap

into the expertise when you need it, and not have to have [developers] on a payroll when you don't need them."

GlobalLogic will structure their new relationships with a royalty component—pay them two-thirds of their fee in cash and tie the last third to the success of the product.

## Industry Watch



David Rubinstein

Harrison described a meeting he recently had in Delhi, India, with a banker who was looking to market a hybrid social networking/research-sharing intelligence for individual investors. Another company wanted to build out a disaster-response solution that uses mobile technology to route people to safety, or health services, as needed. The common theme, he pointed out, is that these startups know all about the business they want to build, but lack the technology savvy. And they don't want to set up an internal development shop, which takes time that might cost them any market advantage they might have attained.

"If they're trying to build a product or solve a particular problem, our ability to do it is more of a value to them than their trying to find the expertise and experience to build it on their own," Harrison said.

Finding the best people for the job is what TopCoder is all about. The company best known for its Las Vegas coding competitions has created a formidable network of developers skilled in any number of areas—"crowdsourcing with competition," as senior vice president of software development Mike Morris described it.

Morris agreed with Harrison about the efficiencies of a virtual work force: You pay for what you need, when you

need it. He said that companies engaged with TopCoder look at it as their software factory: "We build a relationship where we set up a joint program office with a customer."

Knowing that the development team is working with the company helps organizations leery of outsourcing. They fear not having full knowledge of the developers' skills and wondering if the language will be a barrier, the requirements will be muddled or IP will be protected.

TopCoder is set up to build software through a bid process. Projects are posted within the community, and any developer can work alone or with others to solve that problem. TopCoder records all kinds of data about those people and sees who comes to work on a project. If the company feels there isn't a high enough probability of success based on which developers came to work on a project, TopCoder might increase the money it's offering for that work, to entice more developers. That keeps costs fairly well fixed—another uncertainty in the world of outsourcing.

As for costs, Harrison tried to show there still are gains to outsourcing, especially overseas. He cited wage inflation in China and India of 3 percent to 4 percent during the past six years, compared with 2 percent to 3 percent in the U.S. The difference is that from year to year, salary gains in the U.S. are modest, while overseas the step increases are much greater.

Still, he noted, the average middle-class worker in India makes roughly US\$7,000 per year, dwarfed by U.S. workers, who earn more than 10 times that amount. So, even if wage inflation is 3 percent in India and 2 percent in the U.S., Harrison said, "it'll take a long time for that gap to narrow." ■

David Rubinstein is editor-in-chief of SD Times.

## BUSINESS BRIEFS

**Microsoft** said it will acquire mobile device maker **Danger** for an undisclosed sum. Danger created the Java-based operating environment used in the T-Mobile Sidekick. Microsoft executives said that Danger's benefits are its real-time mobile messaging and social networking applications . . . **Novell** has acquired open-source team collaboration provider **SiteScape**, trying to further its hold on open collaboration software and projects. Novell executives said that SiteScape, creator of the ICEcore open-source project, brings strong team workspace and real-time collaboration capabilities to the company . . . **Sun Microsystems** announced plans to acquire desktop virtualization provider **Innotek**, whose main product is VirtualBox, an open-source x86 virtualization product. Sun executives say acquiring Innotek will strengthen Sun's foothold in the virtualization market by extending its xVM platform with a desktop virtualization solution . . . **Ravenflow** has announced US\$5 million in new venture funding, with investments coming from **Alloy Ventures**, **Palomar Ventures** and the **Roda Group**. The company also said that sales in 2007 were triple the 2006 total . . . **GlobalLogic**, a global software product development company, secured US\$29.5 million in Series C funding. All of the company's existing investors, including **New Atlantic Ventures**, **New Enterprise Associates** and **Sequoia Capital India**,

contributed to the funding. Company executives said the funds will be used for acquisitions that will expand GlobalLogic's presence throughout Europe, Asia, North America and Latin America.

**EARNINGS: BMC Software** reported fiscal 2008 third-quarter net earnings of US\$89 million, compared with \$64 million a year before. Revenue for the quarter was \$459 million, an 11 percent jump from a year ago. According to company executives, the quarter marked the 11th straight in which BMC had met or exceeded its projected revenue and earnings per share . . . **Quest Software** reported that its revenue for 2007 rose 12 percent, to US\$631 million, compared with \$561 million for 2006. Quest's net income for the fourth quarter of 2007 was \$24.1 million, or 23 cents per share. The company is also projecting revenue for 2008 of between \$705 million and \$720 million . . . **Trend Micro**, a provider of Internet content security, has seen record growth in annual net sales. In 2007, the company posted net sales of US\$231 million, a 13 percent jump from a year ago . . . Global embedded devices company **BSQUARE** has reported its highest full-year profit in 10 years for fiscal year 2007. Total revenue for the fiscal year was US\$59.4 million, up 19 percent from \$49.8 million in 2006. BSQUARE's reported revenue for the fourth quarter of 2007 was \$15.6 million. ■

## EVENTS CALENDAR

### Emerging Technology Conference

March 3-6

San Diego  
O'REILLY MEDIA  
conferences.oreillynet.com/etech

### MIX 2008

March 5-7

Las Vegas  
MICROSOFT  
www.visitmix.com/2008

### BrainShare

March 16-21

Salt Lake City  
NOVELL  
www.novell.com/brainshare

### EclipseCon 2008

March 17-20

Santa Clara  
ECLIPSE FOUNDATION  
www.eclipsecon.org/2008

### ESRI Developer Summit

March 17-20

Palm Springs, Calif.  
ESRI  
www.esri.com/events/devsummit/index.html

### Secure Development World

March 25-26

Alexandria, Va.  
SDW  
www.securedevelopmentworld.com

### Open Source Business Conference

March 25-26

San Francisco  
IDG WORLD EXPO  
www.infoworld.com/event/osbc

### SLAM (Sales, Licensing, Alliances & Marketing)

April 3-4

Burlingame, Calif.  
SOFTWARE BUSINESS  
www.slamconference.com

### Developer Relations Conference

April 7-8

Redwood City, Calif.  
EVANS DATA  
www.evansdata.com/drc

### RSA Conference

April 7-11

San Francisco  
RSA  
www.rsaconference.com/2008/US

### MySQL Conference & Expo

April 14-17

Santa Clara  
MYSQL  
en.oreilly.com/mysql2008

### Embedded Systems Conference

April 14-18

San Jose  
CMP MEDIA  
www.embedded.com/esc/sv

### Software Test & Performance Conference

April 15-17

San Mateo, Calif.  
BZ MEDIA  
www.stpcon.com

### Software 2008

April 29-30

Las Vegas  
CMP MEDIA  
www.software2008.com

### CommunityOne

May 5

San Francisco  
SUN MICROSYSTEMS  
developers.sun.com/events/communityone

For a more complete calendar of U.S. software development events, see [www.bzmedia.com/calendar](http://www.bzmedia.com/calendar). Information is subject to change. Send news about upcoming events to [events@bzmedia.com](mailto:events@bzmedia.com).



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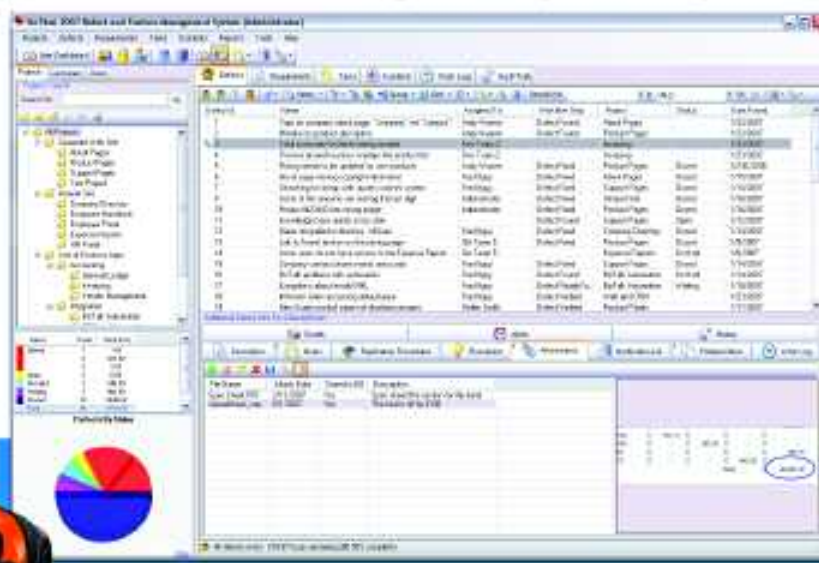
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